# PERFORMANCE BASED WORK STATEMENT (PWS)

**FOR**

**OPERATIONS AND MAINTENANCE SERVICES**
**BASE TELECOMMUNICATIONS SYSTEM (BTS)**
**AT**

**McCONNELL AIR FORCE BASE KANSAS**

Updated: 27 April 2017

Table of Contents

**1.0. DESCRIPTION OF SERVICES/GENERAL INFORMATION ..... 4**
**1.1. Scope of Work.** ..... 4
**1.2. Operate and Maintain (O&M) Requirements.** ..... 4
**1.2.1. Telephone Switch System O&M.** ..... 4
**1.2.2. Perform Inside Plant (ISP) and Outside Plant (OSP) Maintenance O&M.** ..... 5
**1.2.3. Preventive Maintenance Inspections (PMIs).** ..... 5
**1.2.4. System and Service Outages and Trouble Calls/Tickets.** ..... 7
**1.2.5. Alarm Notification.** ..... 8
**1.2.6. Cable Location, Staking, and Marking.** ..... 9
**1.2.7. System Cross-Connect and Disconnect Services.** ..... 9
**1.2.8. Call Accounting System (CAS)** ..... 9
**1.2.9. Voice Mail.** ..... 9
**1.2.10. Voice Protection System (VPS).** ..... 10
**1.2.11. Traffic Measurement and Analysis.** ..... 10
**1.2.12. Contractor Support Services.** ..... 10
**1.2.13. Technical Solutions.** ..... 11
**1.2.14. BTS Work Center Records.** ..... 11
**1.3. Work Order Requirements.** ..... 19
**1.3.1. Work Order Procedures.** ..... 20
**1.3.2. Work Order Classifications.** ..... 20
**1.3.3. Required Information on Work Orders.** ..... 21
**1.3.4. Work Orders Subject to the Construction Wage Rate (CWR) Requirements Statute.** ..... 21
**1.3.5. Submittal of Completed Work Orders.** ..... 22
**1.4. Special Project Requirements**. ..... 22
**2.0. SERVICE SUMMARY (SS). ..... 22**
**2.3. COR MONTHLY REPORT.** ..... 25
**2.4. PERIODIC PROGRESS MEETINGS.** ..... 25
**3.0. GOVERNMENT-FURNISHED PROPERTY AND SERVICES. ..... 25**
**3.1. Air Force-Provided Spares\Contactor Logistic Support.** ..... 26
**3.2. Base Support.** ..... 26
**3.3. Government Support for CVC Efforts.** ..... 28
**4.0. GENERAL INFORMATION. ..... 28**
**4.1. HOURS OF OPERATIONS.** ..... 28
**4.2. MILITARY EXERCISES.** ..... 29
**4.3. HOLIDAYS.** ..... 29

**4.4. PERFORMANCE OF SERVICES DURING CRISIS DECLARED BY THE NATIONAL COMMAND AUTHORITY OR OVERSEAS COMBATANT COMMANDER.** ..... 29
**4.5. CONTRACT MANAGEMENT.** ..... 29
**4.6. ENVIRONMENTAL COMPLIANCE.** ..... 30
**4.7. CONTRACT EMPLOYEES.** ..... 30
**4.8. SECURITY REQUIREMENTS.** ..... 31
**4.9. INTERFACES.** ..... 36
**4.10. SAFETY REQUIREMENTS AND REPORTS.** ..... 37
**4.11. REPORTS AND RECORDS.** ..... 37
**4.12. LABOR HOUR REPORTING.** ..... 37
**5.0 APPENDICES.** ..... **38**
**APPENDIX 5.1 - WORKLOAD ESTIMATES** ..... **39**
**APPENDIX 5.2 - ITEMS TO BE MAINTAINED BY THE CONTRACTOR** ..... **40**
**APPENDIX 5.3 - GLOSSARY AND ACRONYMS** ..... **50**
**APPENDIX 5.4 - VOICE SWITCHING SYSTEM (VSS) SUSTAINMENT** ..... **63**
**APPENDIX 5.5 - APPLICABLE DOCUMENTS** ..... **64**
**APPENDIX 5.6 – GLOBAL POSITIONING SYSTEM SERVICE DOCUMENTS** ..... **67**

## 1.0. DESCRIPTION OF SERVICES/GENERAL INFORMATION

### 1.1. Scope of Work.

The Contractor shall provide all personnel, equipment, tools, materials, vehicles, supervision and other items and services, unless specified in this contract as Government Furnished Property (GFP). Work under this PWS will support the mission of 22d Communications Squadron at McConnell Air Force Base, Kansas by providing highly reliable wired telecommunications and networked voice, video and data services. The Contractor shall perform Operation and Maintenance (O&M) and other services within the scope of this requirement as required to ensure the Base Telecommunications System (BTS) is available 24 hours per day, 7 days per week. The BTS consists of the base telephone system switch to include VOIP, the outside plant (OSP) and inside plant (ISP) systems, network, transmission systems, and all associated equipment described in Appendix 5.2, which may include other systems (e.g. radio, etc.). The Contractor shall operate and maintain all BTS equipment and systems in accordance with (IAW) the Original Equipment Manufacturers' (OEM) technical manuals and specifications, Department of Defense (DoD) and US Air Force (AF) policy and regulations, applicable federal, state, and local laws and regulations. The contractor is expected to use innovative solutions to effectively accomplish PWS requirements in a timely manner at reduced costs and in a way that fosters pride and ownership.

### 1.2. Operate and Maintain (O&M) Requirements.

Overall responsibility to properly operate and maintain the BTS shall rest with Contractor as described by the maintenance support plan (MSP) (See PWS section 1.2.14 BTS Work Center Records) and the OEM's recommended procedures. Appendix 5.2 identifies Government Furnished Material (GFM) requirements. O&M actions include all actions taken by the Contractor to operate and maintain equipment and systems in a serviceable condition or to restore it to a serviceable condition to include purchasing of commercially available parts, inspection, periodic testing, adjustment, and repair. The effort may include the replacement of defective circuit packs and Customer Premise Equipment (CPE), preventive maintenance IAW applicable publications (OEM, Appendix 5.5, and otherwise specifically listed herein) and other routine work to optimize the life expectancy of the equipment and cable systems. Work orders will be accomplished IAW Section 1.3. The Contractor shall not postpone or otherwise delay O&M efforts to accomplish work orders. The Contractor is responsible for completing both O&M and work orders simultaneously to ensure contractual timelines are met for both.

#### 1.2.1. Telephone Switch System O&M.

The Contractor shall operate and maintain the system(s) identified in Appendix 5.2. The Government will measure the acceptable standard performance level by a determination of the total systems availability (up time) and reliability rating during any given month. All

equipment or services installed by the Contractor shall automatically become part of the O&M services. This includes, but is not limited to: management; administration and maintenance; performing software functions (i.e. number reclamation) and translations for any trunk or circuit of configurations required by on-base systems or users; data administration; trouble assistance; and, records administration. O&M shall also include Voice over Internet Protocol (VoIP) operations as part of the BTS. VoIP equipment is identified in Appendix 5.2. Demarcation of VoIP maintenance shall not extend beyond the Voice Gateway and Power Ethernet Switches(s). See Paragraph 4.8 for security requirements.

**1.2.2. Perform Inside Plant (ISP) and Outside Plant (OSP) Maintenance O&M.**
Contractor shall maintain ISP and OSP cable and equipment as identified in Appendix 5.2 and IAW applicable documents listed in Appendix 5.5 of this PWS.

**1.2.3. Preventive Maintenance Inspections (PMIs).**
Contractor shall perform PMIs as required on all systems covered in Appendix 5.2 by this contract IAW OEM recommended or established schedules and/or manuals. Contractor shall elevate any problems and identify any trends to the COR in writing within one workday. Contractor shall correct deficiencies IAW the paragraphs below.

**1.2.3.1. Switch Power Test.** The Contractor shall perform scheduled PMI tests of the telephone switch backup power system. PMIs shall test and document the power systems identified in Appendix 5.2. Each power system shall be tested IAW OEM specifications. Test results shall be documented IAW PWS section 1.2.14.

**1.2.3.2. Spare Conductor Test**. Contractor shall perform a scheduled PMI test of all spare conductors. PMIs shall test and document at least two selected, out of service pair (one low and one high numbered pair) in each 25-pair group of every cable terminating in the Dial Central Office. These PMI tests are to be accomplished quarterly. Test results shall be documented IAW PWS section 1.2.14.

**1.2.3.3. Manholes and/or Handholes.** The Contractor shall inspect five COR-accepted manholes and/or Handholes per month under the O&M portion of this contract. Additional inspections (over five each) shall be accomplished as a work order IAW PWS section 1.3. If the Contractor is working in a manhole not scheduled for a PMI, the Contractor must correct any discrepancies before the job is considered complete. Then, the manhole will be counted in the monthly PMI schedule. The Contractor shall inspect each manhole/handhole for the following discrepancies and correct as required:

- ✓ All cables will be identified and tagged. At each splice, tags will be placed on each side of the

splice identifying each cable. In manholes with pull through cables, each cable will be identified with a tag.

- ✓ All cables will be racked to the manhole cable supports.
- ✓ All ducts (vacant or occupied) will be sealed.
- ✓ All manholes or handholes will be cleaned of mud, water and any other debris.
- ✓ Update the CVC database - for the manhole or handhole and record all descriptive information for splices, cables, ducts and other communication features in the manhole or handhole.

**1.2.3.4. Building Entrance Terminals.** The Contractor shall inspect six COR identified terminals per month. Additional inspections (over six each) shall be accomplished as a work order IAW PWS section 1.3. The Contractor shall inspect each terminal for the following discrepancies and correct as required:

- ✓ Verify the correct location, number and cable count.
- ✓ Ensure cable is properly clamped to the wall and entrance conduits are sealed.
- ✓ Ensure cable is tagged correctly.
- ✓ Verify all working numbers in the facility and remove any unused numbers.
- ✓ Remove all unused cross-connects, including those outside the DCO.
- ✓ Ensure terminal is properly secured to the wall and is clean.
- ✓ Update TMS.
- ✓ Update the CVC database with descriptive information.

**1.2.3.5. Distribution Pedestal Terminals.** The Contractor shall inspect six COR accepted distribution pedestal terminals per year. The Contractor is responsible for ensuring inspections occur within the year regardless of weather conditions. Additional inspections (over six) shall be accomplished as a work order in accordance with PWS Section 1.3. The contractor shall inspect each terminal for the following discrepancies and correct as required.

- ✓ Identify and tag each cable in the terminal if not already tagged.
- ✓ Ensure cable is grounded to a ground rod; notify COR immediately if ground rod is not available to complete maintenance actions.
- ✓ Inspect condition of cable and cable pairs for dry rot, exposed conductors, and any damage by rodents.
- ✓ Ensure terminal is correctly installed.
- ✓ Verify all working numbers and remove any unused numbers.
- ✓ Remove all unused cross-connects, including those outside the DCO.
- ✓ Update the CVC database with descriptive information.

**1.2.3.6. Cable Analysis.** The Contractor shall review TMS records quarterly and perform

cable analysis. The Contractor shall determine the number of bad pair(s) in each cable and report the percentage in each cable to COR. The Contractor shall also determine the cable fill rates and report to COR. Update CVC as necessary to record accurate cable information.

**1.2.4. System and Service Outages and Trouble Calls/Tickets.**

**1.2.4.1. Contractor Availability.** The Government shall be able to contact Contractor personnel 100% of the time. The Contractor shall respond in case of emergencies, outages, alerts and exercises, 24 hours a day, seven days per week. If contacted, the Contractor shall report for duty and provide services as necessary until the emergency, alert, or exercise is completed.

**1.2.4.2. Scheduled Outages.** Contractor shall identify, coordinate, and schedule service outages with the COR. The Contractor shall schedule such outages to minimize inconvenience to users based upon Government user work schedules. This may require working outside of normal duty hours. The user must release all affected equipment and circuits prior to any service disruption. The Contractor shall follow established local procedures for scheduling and implementing scheduled outages. Notification shall include the reason for the interruption, start and stop times, duration and the equipment, lines, and buildings affected. The Contractor shall log the outage IAW the guidance in PWS section 1.2.14 (work center records).

**1.2.4.3. Restoration/Completion of Outages, Trouble Calls/Tickets**. The COR will assign the category of the outage/trouble and establish the repair priority in Remedy if an outage occurs. The Contractor shall respond on site and initiate repair actions within the specified time listed below from the time the COR advises the Contractor of the problem. However, exceptions to time limits may be allowed, with the written approval of the COR or CO, with appropriate justification. The Contractor shall restore services in the priority order determined by the COR. The Restoration Priority List (RPL) shall apply in the absence of the COR. The Contractor shall continue to work on repair actions until service is restored based on priority. Upon completion of work, the Contractor shall use Remedy to update the Comm Focal Point (CFP) & COR on the corrective action and close the trouble ticket. The Contractor shall co-ordinate with base CFP/COR to restore any Internet Protocol (IP) phone set outages. The Contractor shall log the outage IAW the guidance in PWS section 1.2.14 (work center records). Outage/trouble call categories are further defined as:

**1.2.4.3.1. Emergency.** Contractor shall respond on-site within two hours and restore service within eight hours unless otherwise approved by the COR in writing. Expedition of parts and/or labor is required at no additional charge. If an outage/trouble significantly affects a mission, the CFP may declare the outage/trouble as an Emergency. Emergency outages/troubles are classified as any of the following:

- ✓ Loss of over 75% or more of total call handling capability of any communications system
- ✓ Loss of any Primary or Secondary Crash System or any portion thereof
- ✓ Failure of one or more circuits listed in the Base RPL
- ✓ Loss of LAN connectivity affecting 100 or more users
- ✓ Affects security or emergency type operations, including Emergency Operations Center (EOC); as well as those affecting safety
- ✓ Affect specifically identified events and/or exercises

**1.2.4.3.2. Priority.** Contractor shall respond on-site within six hours and restore service as soon as possible, but shall not exceed three normal duty days. Expedition of parts or labor may be required at no additional charge. Priority outages are classified as any of the following:

- ✓ Loss of over 25% or more of total call handling capability of any communications system
- ✓ Major alarm of any switching system identified in Appendix 5.2
- ✓ Loss of the Commanders Net or Land Mobile Radio (LMR) telephone/radio circuits
- ✓ Total loss of telephone service within a building IAW RPL or COR guidance
- ✓ Loss of LAN connectivity affecting 15-99 users

**1.2.4.3.3. Routine.** Contractor shall respond on-site within 24 hours and restore service as soon as practicable but not to exceed five normal duty days unless otherwise approved by the COR in writing. Expedition of parts and/or labor is not required. Routine outages/troubles are any other outage(s) not included in the above categories.

**1.2.4.3.4. Outage/Trouble Cause Identification.** The Contractor shall determine if a recorded problem or system failure is attributable to the BTS or other causes. The Contractor shall immediately notify the COR if the malfunction is determined to be due to other causes (outside the Contractor-maintained system/equipment). The Contractor may be liable for the cost of any third party service calls or charges necessary to isolate and repair the problem if it is later determined that the cause of failure is related to the BTS or failure of proper O&M of the system.

**1.2.5. Alarm Notification.**

Contractor shall comply with the details of its alarm notification method as documented in the Contractor's Maintenance Support Plan (MSP). Alarm notification shall not interfere with any Government-owned system. Alarm notification of the switch system(s) shall not require

assistance from base personnel. Notification of switch outages shall not be through a continuous direct line to the switching system for security reasons. Remote diagnostics modems are authorized, but must be disconnected when not in use. Contractor is responsible for all materials and equipment necessary to implement alarm notification and shall take all actions to implement the MSP and comply with telephone switching security standards IAW Air Force Instruction (AFI) 33-111, Section G.

**1.2.6. Cable Location, Staking, and Marking.**

The Contractor shall locate, stake, and mark up to 400,000 feet of encased or direct buried conduits/cable per base and each option period (if exercised) when requested by the COR. Marking shall be within three feet of the actual location at ten-foot intervals and at direction changes. The marking shall begin two feet from the point of entry into the work area and shall continue two feet past the point of exit from the work area. Contractor shall complete location, staking and marking within the specified time listed below from the time the COR advises the Contractor of the requirement unless additional time is permitted by the COR. The Contractor shall document time extensions in writing, which includes the signatures of the COR and the BTS project manager. Communication Feature Data (CFD) collection shall be accomplished via work order. See the Equipment and Installation Performance Specification (EIPS), as attached to the basic contract, and corresponding line item on the price list when directed to collect CFD data by the COR. The Contractor shall comply with the following timelines for location, staking, and marking:

| | |
|---|---|
| Emergency: | Within two hours of notification |
| Priority: | Within six hours of notification. |
| Routine: | Within three business days of notification. |

**1.2.7. System Cross-Connect and Disconnect Services.**

Contractor shall perform system cross-connect and disconnect services. All cross-connects and disconnects, which are required or incidental to the performance of O&M actions (including those outside of the Dial Control Office (DCO)), shall be included as part of the O&M service.

**1.2.8. Call Accounting System (CAS)**

The Contractor shall operate and maintain the CAS. This includes monthly storage and output of records. The Contractor is not responsible for input, manipulation, or analysis of data. The demarcation point will be at the switch port UCALL.

**1.2.9. Voice Mail.**

The Contractor shall provide voice mail O&M. This includes, but is not limited to:

management and administration of system network table and networking plan for multiple systems; additions; deletions; modifications to user's mailbox; password resets; distribution list; holiday schedule tables; daylight savings time; synchronization with the phone switch; proper functioning of the auto attendant feature and system backup. Functions also include diagnostic, maintenance, and minor programming changes on current software applications. System backup shall include backup of system configuration, names, and print "list all" of database.

**1.2.10. Voice Protection System (VPS).**
The routine maintenance of the VPS system is via MAJCOM Communication Control Center (MCCC). The Contractor shall respond to any requests for local maintenance as directed by the COR.

**1.2.11. Traffic Measurement and Analysis.**
The COR may request up to four traffic measurements and analysis per switch a year. The Contractor shall perform traffic measurement and analysis within system capabilities and limitations and perform analysis and studies on the base switching system when requested by the COR. The information required by the contract must cover no less than a five-day period, (Monday-Friday, excluding holidays). The Government may also request measurement and analysis for a particular line or group of lines.

**1.2.12. Contractor Support Services.**
The Contractor shall comply with FAR 9.505, Conflict of Interest, IAW support services.

**1.2.12.1. Contractor Support for Government Engineering and Installation.**
The Contractor shall provide technical support to include an interchange of information on technical parameters and capabilities of the BTS; location and identification of building terminals and communication rooms; and verification of cable record information as directed by the COR or CO. These efforts include setting of equipment options to determine proper operational conditions; restoration of service to existing equipment; establishment of service to new facilities; establishment of service for existing facilities under renovation; transfer from one system to another system; and support of hardware and software upgrades.

**1.2.12.2. Contractor Interface and Support for other Vendors.** The Contractor shall cooperate, share and exchange routine or available technical and system equipment interface information with other vendors as directed by the COR or CO.

**1.2.12.3. Workload/Status Meetings**. The BTS Manager shall attend local meetings with the COR(s), Communications Squadron Plans Office, and/or CO to discuss status of current and future work orders, trouble tickets, outages, PMIs, or any other work/event that may impact

contractual performance as required. The Contractor shall provide a list of work orders, trouble tickets, etc. at the meeting for reconciliation and discussion with the COR(s), Contracting Officer, or other personnel (approved by the CORs or CO).

**1.2.12.4. Design Review Meetings.** The Contractor shall review program or project drawings and provide comments concerning communications requirements within ten working days from receipt when requested by the COR. The Contractor shall participate in designated design review meetings identified by the COR. The BTS Manager shall attend design review meetings as required.

**1.2.13. Technical Solutions.**
Contractor shall perform detailed technical solutions for work intended to be performed under this contract upon receipt of a written request from the COR. The technical solution includes a listing of those efforts/items required to complete the job and shall be provided to the COR using the work order format specified in PWS Section 1.3. The Contractor shall provide the proposed solution to the COR within five normal duty days from receipt of requirement unless a longer period is agreed to by the COR and documented on the requirement.

**1.2.14. BTS Work Center Records.**
Contractor shall develop and maintain BTS work center records. The Contractor shall update work center records within two normal duty days after completion of the associated task(s) unless specified differently within this section. All BTS records and documents established and maintained by the Contractor are Government property and shall remain at the site and turned over to the COR for disposition upon contract completion. Failure to do so may result in withholding of final payment until all records are recovered or in a reduction in final payment for records lost or misplaced. The Government requires electronic maintenance and storage of records, unless otherwise specified herein. The Contractor shall identify all acronyms, codes, abbreviations, signs and symbols used in each record. The Contractor shall use the same format for initial and all subsequent submissions of the same record unless otherwise approved by the CO. All records shall be readily available for review by the COR and CA, and other personnel (authorized in writing by the CO). The Contractor shall update all errors found or identified during review of the work center records. Contractor shall develop, update and/or maintain accurate, complete, and readable work center records as listed below:

**1.2.14.1. Maintenance Support Plan (MSP).** The MSP shall enable the scheduling and tracking of preventive maintenance actions on Contractor-maintained equipment. This record shall be available **within 30 calendar days after period of performance begins.** When changes occur that affect the MSP, revisions shall be submitted within 10 work days after the effective change (e.g. modification adding equipment) unless otherwise requested by

the CO (e.g. with the proposal to add new equipment to maintenance). The Government/COR will review and approve, or provide the Contractor with required corrections. Changes may be implemented only after CO approval. The MSP shall contain as a minimum: a schedule of PMIs due on each piece of equipment being maintained (Appendix 5.2) for the life of the contract IAW equipment manufacturer's recommendations; alarm notification procedures; and specific maintenance tasks to be performed on each system.

**1.2.14.2. PMI Inspection Records and Malfunction Record.** PMI Inspection records shall, at a minimum, contain: the date and time inspection was performed; a short description of inspection conducted; malfunctions or problems annotated on record with equipment data, serial number, etc.; the corrective action taken by the Contractor; and the initials of the technician performing the inspection.

**1.2.14.3. Maintenance/Repair Logs (e.g. maintenance actions, trouble tickets).** Contractor shall develop and maintain an accurate and legible BTS Maintenance/Repair Log to show all maintenance and inspections (other than PMIs) performed during each 24-hour period as a result of trouble report actions or scheduled/unscheduled outages. The log shall be initialed by the BTS Manager and shall include, as a minimum: initials of the person reporting a discrepancy; time a discrepancy was reported (start time); short description of the discrepancy; identification of the customer/user by station line affected (telephone number or circuit number); location of equipment (building and room number, etc.); time a technician(s) was dispatched; dates/times of coordination and restoration; time discrepancy was corrected (stop time) and annotation of log with the person or office contacted to provide status information; corrective action(s) taken; and restoration priority (emergency, priority, or routine outage(s)). For scheduled outages, also include the Government authorization.

**1.2.14.4. Manhole, Handhole, and Building Terminal Inspection/Maintenance/Repair**. The Contractor shall maintain manhole, handhole, distribution pedestal terminal, and building terminal inspection records as defined in PWS Section 1.2. The Contractor shall update the Cyberspace Infrastructure Planning System (CIPS) Visualization Component (CVC) database with pertinent CFD information gathered during the inspections. The record shall be available for inspection and analysis by the Government. If other electronic documentation is implemented, the Contractor shall grant the Government access to those records.

**1.2.14.5. Cable Installation/Repair Test Results.** Contractor shall develop and maintain a cable installation/repair test results record after the installation or repair of an outside plant cable. Graphics and pictorials may be used to illustrate. The record shall, at a minimum, contain

the purpose of test/inspection; complete identification of item tested/inspected and test equipment used; complete description of the physical set-up (e.g., item, facility, and equipment used); complete description of procedures used; copy of results/analysis; actual recorded data (e.g., instrument readings) (if extensive, provide as an appendix); conclusions and recommendations; and authentication of results and acceptability. The Contractor shall update the CVC database with pertinent CFD information resulting from installation or repair.

**1.2.14.6. Communications and Information Systems Installation Record (CSIR).**

**1.2.14.6.1. New Developments for Maintaining CSIR Drawing Records.** The Air Force has implemented the Cyberspace Infrastructure Planning System (CIPS) Visualization Component (CVC). It changes the method of developing, maintaining, and editing information historically contained in installation drawings (CSIRs) from a Computer Aided Design and Drafting (CADD) process to a Geographic Information Systems (GIS) process that interfaces with the Geobase initiative and provides an Air Force portal accessible, enterprise-wide database structure suitable for storing, visualizing, editing, and analyzing base-level communications and information systems infrastructure. At this time, CVC is not designed to store inside plant information. Until such time as the CVC has standard provisions for recording inside plant information, inside plant record drawings shall be maintained in Base's existing drawing record systems. The Contractor shall coordinate with the Base CSIR Manager, and develop and maintain CSIR IAW AFI 33-101, TO 00-33A-1001, and TO 00-33D-3003.

**1.2.14.6.2.** Contractor shall produce, update, and post changes to drawings, plant records or documents using Government-provided forms, software, and web browser applications. Contractor shall load, edit, update and maintain CSIR information, for the outside plant, in the CVC database IAW AFI33-101and TO 00-33A-1001. Contractor shall transfer to the CVC database all pertinent outside plant CFD information from administrative and maintenance CSIR, Legacy CSIRs, work orders, inspection records, as-built and as-installed marked-up drawings, and GPS services produced as a result of the Contractor's operations. The Contractor shall update the CVC database with outside plant information from as-built drawings or other pertinent documents or electronic data pertaining to work done by third parties (organic or Contractor) when tasked through the work order process. A separate pre-priced Sub-contract Line Item Number (SLIN)/Product Identifications (PID) shall be used for conversion of third party as-built drawings, document, or electronic data information. Contractor is responsible for verifying Contractor-entered information, accuracy, and completeness. Contractor will use the CVC Viewer/Editor to update the CVC by opening and utilizing Live Direct Edit Sessions. During the edit session, the Contractor will update CVC with as-built information or with information transcribed from shape files created or produced in accordance with PWS paragraph 1.2.14.18. When the update is completed, the Contractor

will close the session and notify the CISR Manager the session edit is ready to be approved. The CSIR Manager will review the Contractor's edit session and Quality Control (QC) approve or reject each Contractor's Live Direct Session Edit by inspecting each feature added or modified during the Live Direct Edit Session. The CSIR Manager will notify the Contractor of each feature that was rejected during the quality control approval process in order for the Contractor to take corrective action.

**1.2.14.6.3. Inside Plant Drawing Records.** The Contractor shall maintain Inside Plant Drawing records in hardcopy as directed by the CSIR Manager. Contractor shall transfer to inside plant drawing records all pertinent inside plant information from administrative and maintenance CSIR, Legacy CSIRs, work orders, inspection records, as-built and as-installed marked-up drawings or other information produced as a result of the Contractor's operations. The Contractor shall also develop and maintain correct, manually annotated paper copies of changes to the inside plant. The Contractor shall update Legacy CSIR drawing records with inside plant information from as-built drawings or other pertinent documents or electronic data pertaining to work done by third parties (organic or Contractor) when tasked through the work order process. The work order process shall also be used for conversion of third party as-built drawings, document, or electronic data information. The Contractor shall not produce new electronic files unless no file exists. In cases when no electronic file exists, the Contractor shall produce a new drawing for ISP permanent drawing records. The Contractor shall also update any associated drawings to incorporate any changes/additions made to a drawing record; for example, if a floor plan has changes, the changes shall also be posted to the equipment data list/face equipment diagram, as applicable.

**1.2.14.6.4.** The Contractor shall have a CIPS account in order to use CVC. The Contractor shall apply for a new account by visiting the website at https://cipsaf.tinker.af.mil/cips, selecting Create New Account, and providing the required information.

**1.2.14.6.5.** This expands on the guidance provided in Paragraph 1.2.14.6 above. *(Note: This section provides for keeping As-Built records. At this time, the CVC is **not** designed to keep as-built records for specific installation projects. Information put into the CVC is merged into a dynamic, ever-changing, database and information as to the cause of changes or modifications is not automatically recorded. Until such time as the CVC has standard provisions for providing a static as-built picture of completed projects, or for recording the nature and cause of changes within CVC, the CSIR Manager requiring as-built records not subject to change, must keep non-CVC as-built records in either paper or electronic file format.)*

**1.2.14.6.5.1**. Contractor and Third Party as-built drawings submitted to the CSIR Manager will be in VISIO, or CVC format as directed by the COR. The Contractor shall provide correctly

annotated paper copies in addition to the electronic files until the electronic submittal process has been validated at which time the paper copy requirement may be waived. Color plots of electronic files are acceptable providing they show the same information that would be shown in a manually marked up drawing.

**1.2.14.6.5.2**. The Contractors will produce drawings to support engineering initiatives.

**1.2.14.6.5.3**. All electronic submissions shall comply with the following standard:

**1.2.14.6.5.3.1.** All changes/additions shall be made on the government provided electronic file. The electronic files shall be renamed in the CSIR Manager designated naming and numbering format.

**1.2.14.7. Switching System and ISP & OSP Equipment Operational Records.** Contractor shall retain records on site and make available for COR or CO/CA review at any time.

**1.2.14.8. Price List/PID Utilization Record.** The Contractor shall produce and maintain an electronic record of the Price List Items/Product IDs (PIDs), ordered under the contract. The record shall include: the Price List Item, or PID number; description; and quantities of each item. The record shall exclude price information. Contractor shall update this record within two days of work order completion.

**1.2.14.9. AF Logistics Support Spares Records (Inventory).** Contractor shall maintain the AF Logistics Spares records in the on-site work center. The COR will provide the initial inventory to the Contractor for maintenance. Records include spares inventory list and spares replacement log. Spares inventory list shall include, as a minimum, Product Engineering Code (PEC), serial number, description, quantity, and vendor. Spares replacement log shall include, as a minimum, name of calling and called personnel, time, requesting description, Material Return Authorization (MRA) number, equipment item's PEC and serial number, shipping date, and material return date.

**1.2.14.10. Contractor-Furnished Hazardous Material.** The Base Material Manager is responsible for documenting and keeping record of all Hazardous Materials. The Contractor shall send a list of all hazardous material used/brought on to the government facility, and send them to the local Material Manager (22 CE/CEIEC). Contractor shall provide location, quantity and name of hazardous material to Material Management.

**1.2.14.11. Equipment Inventory Records (PWS Appendix 5.2).** The Contractor shall

maintain a working copy of Appendix 5.2. Appendix 5.2 shall identify equipment installed, changed, or removed via contract modification or the work order process identified in PWS section 1.3. The record shall include all assemblies of the equipment configuration, which would be logically disassembled from the total configuration for the purpose of packing and shipping. The Contractor shall update the record when individual work orders are completed using the "track changes" feature in MS Word® software.

**1.2.14.12. Telecommunications Management System (TMS).** The Contractor shall perform daily record updates using TMS. Some updates may require the Contractor to manually enter the data upon completion of individual work orders or record changes. Contractor shall maintain cable pair assignment records and E-911 database using TMS.

**1.2.14.13. Work Order Records, Including Warranty Records.** The Contractor shall develop and maintain work orders. The Contractor shall update work center records within two (2) work days after completion of the task(s) specified on individual work orders and notify COR in writing. Physical records of work orders in process shall be retained and available locally (on- base). Electronic storage of completed (accepted by the COR) is acceptable and preferred.

Paper copies of completed work orders may be destroyed by using a cross cut shredder to prevent unauthorized disclosure after electronic storage is complete.

**1.2.14.14. Traffic Measurement Records.**
The switch-generated record shall be used to satisfy this requirement as needed. The record shall contain an analysis of the traffic measurements including a trunk traffic summary and individual analysis of each trunk group. Printed records shall be provided to the COR on an as-needed basis, not more often than quarterly. The Government may also request measurement and analysis records for a particular line or group of lines. This selective record shall be maintained on site and made available to the COR within three work days from occurrence of Traffic Measurement analysis.

**1.2.14.15. System Capacity Records.**
Contractor shall produce system capacity records quarterly and upon request by the COR. Semi- annual system capacity records include outside plant cables and building records. Records shall include each cable and terminated cable count, type of cable (bad and spare), and number of conductors used. Quarterly system capacity records shall be produced for the host switch and remotes. The records shall include total line ports, line ports in use, line port type (analog/digital/ISDN/etc.) total used, and DS-1 digital trunk ports (total ports used and available).

**1.2.14.16. System Security Audit Record.** The Contractor shall develop and maintain an electronic weekly user event log that contains, at a minimum: the number of logins (remote and local); number of login attempts (remote and local); password changes; and/or any critical table modifications including new user accounts as allowed by the switch.

**1.2.14.17. Call Accounting System (CAS).** The Contractor shall gather and electronically store records output from the CAS as formatted by Unique/Ucall -32 system. The Contractor shall make stored records available to the COR.

**1.2.14.18. Global Positioning System (GPS) Service Data.** Contractor shall collect, update and maintain the CFD and use the data to update the location and attributes of communication features in the CVC database in accordance with 1.2.14.6 and Appendix 5.6 (for any GPS requirement).

**1.2.14.18.1. Global Positioning System (GPS) Service.** Contractor shall use GPS technology to provide geospatial coordinates and feature description data of cable installation pathway, which includes but is not limited to data on new, modified, and repaired underground, buried and aerial communications cables, cable trenches, ducts, duct banks, manholes, handholes, building entries, terminals, distribution pedestal terminals, and splices. Contractor shall ensure data compatibility with the CIPS Visualization Component (CVC) database and shall upload the data into the CVC database.

**1.2.14.18.1.1.** The Contractor shall use GPS equipment and technology supplemented with electronic underground cable locating equipment and land surveying operations necessary to collect required Communication Feature Data (CFD) following the Federal Geographic Data Committee (FGDC)-STD-007.4-2002 specified in PWS Appendix 5.5.

**1.2.14.18.1.2.** Each communication feature requiring geospatial coordinates shall be located to within one meter of its true ground position, in the horizontal plane, with a 95% spatial accuracy confidence level as defined in FGDC-STD-007.3-1998, specified in PWS Appendix 5.5.

**1.2.14.18.1.3.** Geospatial coordinates for the location of manholes and cable vaults shall be recorded for the center of the manhole lid. Geospatial coordinates for the location of handholes, pull boxes, pedestals, and buried splices shall be recorded for the top center of the feature. Geospatial coordinate data for the location of utility lines shall be recorded at a minimum every 50 feet, and each turn or bend in a cable installation pathway must also be recorded so the coordinates for any point along the turn pathway will fall within the allowable

accuracy.

**1.2.14.18.2.** The Contractor shall be responsible for providing all required equipment including software, hardware, and any other tools, labor, and materials necessary to provide CFD on electronic storage media in the specified formats.

**1.2.14.18.2.1.** The GPS collected CFD attribute, metadata, and location information shall be stored and submitted in an Environmental Systems Research Institute (ESRI) Shape File format. The shape files must be compatible with the CVC Viewer/Editor web-browser application, currently accessible at https://cipsaf.tinker.af.mil/cips/mycips.aspx. Its format shall be within a folder named the same as the prefix of the shape file. For Example, if the shape file is named "points_lafb_28.shp" the folder would be named "points_lafb_28". The folder shall contain all the files that make up the general shape file, i.e., ".shp", ".shx", ".dbf", etc. along with the specified metadata file. The shape files shall have a geospatial reference (.prj) file included that specifies the parameters of the coordinate system.

**1.2.14.18.2.1.1.** The Contractor shall use GPS to determine horizontal position of communication features and will format CFD entry using the entity naming convention, attribute fields and domain values as specified by Table A.

**1.2.14.18.2.1.2.** The Contractor shall collect CFD in GPS data loggers and will use Table A to produce the CFD data dictionary for use in the logger.

**1.2.14.18.2.1.3.** For each set of CFD collected using GPS, the Contractor shall complete all metadata elements marked mandatory as defined by the FGDC –STD-001-1998 specified in PWS Appendix 5.5. Metadata shall be formatted and stored as an XML document compatible with the submitted shape files and software of the organization specified in Paragraph 1.2.14.18.2.1.

**1.2.14.18.2.1.4.** Calculation worksheets showing compliance with National Standard for Spatial Data Accuracy (NSSDA) statement at the 95% confidence level as required by Paragraph 1.2.14.18.1.2 shall be submitted as an Excel (.xls) file. Example calculation worksheets in Excel format can be downloaded from a FGDC website: http://www.fgdc.gov/.

**1.2.14.18.2.1.5.** Geospatial data shall overlay on the installation's most current GeoBase Common Installation Picture (CIP) provided in the Air Force Porta1 accessible CVC. The collected data will incorporate the datum, coordinate and projection system of McConnell AFB, KS CIP which is: World Geodetic System 1984 (WGS 1984) Universal Transverse Mercator (UTM) Zone 14 (96 to 102 degrees West, Latitude Band S (32 to 40 degrees North).

**1.2.14.18.3. Quality Control.** The Contractor shall utilize a topology build and clean routine and assure the Shape files containing CFD have the following:

- ✓ No erroneous overshoots, undershoots, dangles or intersections in the line work.
- ✓ Features shall be snapped where applicable, for example, GPS Dbsplice snapped to
- ✓ GPS Path Segment.
- ✓ Lines should all be continuous, with no pseudo-nodes. Nodes should only exist where the attributes of a line change.
- ✓ No sliver polygons.
- ✓ All polygons completely close and have a single unique centroid.
- ✓ Digital representation of the common boundaries for all graphic features must be coincident, regardless of feature layer.

**1.2.14.18.4. Maintenance of GPS Service Data.** CFD shape files, metadata XML files, the quality control report and calculation worksheets validating the NSSDA accuracy statement shall be maintained on site in an orderly manner. Contractor shall make available such documentation to COR, when requested, for review to ensure compliance with GPS service guidance.

**1.2.14.18.5. Updating CVC With GPS Collected CFD** The Contractor shall store the collected outside plant infrastructure features and communications pathways shape files in the local government provided computer workstation, and shall transcribe information from the local workstation shape file into the CVC database using the CVC Viewer/Editor web-browser application, accessible at https://cipsaf.tinker.af.mil/cips/mycips.aspx or search for CIPS at the Air Force Portal.

**1.3. Work Order Requirements.**

The Contractor shall comply with the following requirements. Examples of work orders include, but are not limited to, equipment purchases, installations, removals, or relocations. Additionally, work orders may include installation or removal of cables/transmission media, as required for new requirements, and follow-on O&M of these equipment items/media. The COR will be notified of any installation found to be incomplete or not installed according to industry standards. The Contractor shall maintain the installed infrastructure and will not be held responsible for completing third party installations or bringing third party installations up to industry standard unless so directed by issuance of a work order or contract modification. The Equipment and Installation Performance Specification (EIPS) provides detailed descriptions of the material and labor effort (e.g. material, labor, and incidentals for installation, removal, and/or relocation) required by the attached Pricing Table and identified by PIDs. When an item

required to complete a work order is not pre-priced within the Pricing Table (Contract Attachment 1), the Government may negotiate the addition of these items, negotiate a special project (PWS Section 1.4), or opt to use another vehicle to accomplish the task.

**1.3.1. Work Order Procedures.**

**1.3.1.1.** Work orders shall be primarily prepared by the COR; however, the CORs shall have the option to delegate the preparation of work orders to the contractor. Work orders prepared by the Contractor shall be approved by the COR before work starts. All work orders shall be prepared via Microsoft Access database or equivalent form. Work order numbers shall be established by the COR. If necessary, the Contractor shall walk-through the proposed work site to ensure understanding of the work to be performed. The Contractor may be accompanied by Government personnel.

**1.3.1.2.** All work orders issued hereunder are subject to the terms and conditions of the contract. In the event of conflict with any work order, the contract will take precedence. The Contractor shall refer any questions, concerns, or disputes concerning work orders to the COR in writing within 24 hours (two hours for emergencies) of receipt of the work order. In the case of misunderstanding or concern, the Contractor does not have the right to reject work orders. Should questions, concerns, or disputes occur, the Contractor shall continue work while elevating to the CO in writing for direction/resolution.

**1.3.1.3.** Work orders will be accomplished during normal duty hours; however, occasions may arise that require work to be accomplished outside of these hours. The Contractor shall be responsible for covering such situations with adequate personnel and completing the work within the stipulated time.

**1.3.2. Work Order Classifications.**

The COR will classify work orders as routine, priority, or emergency. The COR is authorized to reclassify/reprioritize work orders without cost before work commences. The Contractor shall comply with the time limits listed below from the time of receipt of the work order. However, exceptions to time limits may be allowed, with the written approval of the COR or CO, with appropriate justification. Failure to obtain materials due to supplier delay is not typically considered an adequate reason for an extension. All cable cut repairs shall be classified as emergency unless determined otherwise by the COR.

**Routine**. Complete within 10 duty days

**Priority**. Complete within three duty days

**Emergency.** Respond on work site within four hours and complete work as soon as possible upon approval. The COR may provide initial notification to the Contractor verbally, with a written follow-up within two hours. The Contractor will keep the COR apprised of emergency work order status.

### 1.3.3. Required Information on Work Orders.

Work orders placed under the contract will contain the following information as a minimum:

- ✓ Date of preparation.
- ✓ Contract number, Task Order number, and work order number.
- ✓ Price List Item/PID, description, quantity ordered, building number, room number, and contract unit and extended prices and total Not to Exceed (NTE) price.
- ✓ The work order priority and established completion time.
- ✓ A statement that "Changes to work orders, as permitted by the terms within this PWS, shall reflect mutual agreement by attaching supporting documentation; signatures of the COR and Contractor; and dates of signatures".
- ✓ When complete, a stamp or other text block indicating customer acceptance, Contractor initials and dates of completion for work and applicable work center records.
- ✓ Any other pertinent information required to properly document work performed. To include, but not limited to customer POC and contact info, associated Telephone Control Officer (TCO), etc. Include the statement "Invoice Work Order against Funding CLIN(s) & items from Pricelist" prior to work order approval.

### 1.3.4. Work Orders Subject to the Construction Wage Rate (CWR) Requirements Statute.

The COR is authorized to place work orders directly with the Contractor for all Price List Items/PIDs. The Contractor shall identify work orders where the CWR applies on the face of the work order. All work involving a permanent change to real property with an estimated cost over $2,000.00 is subject to the CWR, including but not limited trenching, installing handholes, and/or installing manholes. Upon identifying a work order as CWR-applicable, the contractor shall notify the COR and Contracting Officer prior to beginning work. Work orders may be subject to CWR dependent upon work effort to be performed. A copy of all CWR work orders shall be forwarded to the Contract Administrator when approved, changed, and also when completed.

**1.3.5. Submittal of Completed Work Orders.**
The Contractor shall provide copies of all completed work orders issued under this contract to the COR by dropping them into a designated location within two duty days of completion. Completed work orders shall have the date of completion of the work, the completion date of applicable deliverables, and customer and Contractor initials.

**1.4. Special Project Requirements**.
Special projects are Firm Fixed Price (FFP) negotiated requirements. The CO will request a proposal from the Contractor for special projects. The Government may negotiate a special project into the contract when an effort is needed that is not covered by the current Price List items on the contract. These are one-time efforts that are within the scope of the contract. The estimated Proposals shall be submitted to the CA/CO and include the information below, as a minimum.

**1.4.1.** Contractor shall submit detailed proposals for work intended to be performed under special projects as requested by the CO at no additional price. Contractor shall provide its proposal to the CA/CO within five work days. The Contractor's proposal shall provide adequate detail of efforts/items required to complete the job, including but not limited to item description, quantity, unit of issue and extended prices. The Contractor shall identify if CWR applies in the proposal. Special Projects using Items x004-x006 may be subject to CWR dependent upon work effort to be performed.

**1.4.2**. Contractor's proposal shall include all direct and indirect expenses and profit within the price of the items specified. Contractor's proposal shall be priced for inspection/acceptance at final destination.

**1.4.3.** Contractor's proposal shall identify existing Price List Items/PIDs, proposed for use on the special project.

**2.0. SERVICE SUMMARY (SS).**

| Performance Objective | PWS Reference | Performance Threshold (Monthly unless otherwise specified) |
|---|---|---|
| Operate and maintain minimum switching system(s) | 1.2.1 / 1.2.2 | Minimum switching systems shall be fully operable 99.9% per month. |
| Perform PMI Switch Power Tests | 1.2.3.1 | No more than one instance of failure to test IAW OEM specifications or document results per month. |

| | | |
|---|---|---|
| Perform PMI tests of spare conductors | 1.2.3.2 | No more than one instance of failure to test spare conductors & document IAW PWS each quarter |
| Perform PMI of Manholes and Handholes | 1.2.3.3 | No more than one instance of failure to perform PMIs of Manholes and Handholes IAW PWS per month. |
| Perform PMI of Terminals | 1.2.3.4 | No more than one instance of failure to perform PMI of Terminals IAW PWS per month. |
| Perform PMI Cable Analysis | 1.2.3.5 | No more than one instance of failure to perform PMI Cable Analysis IAW PWS per month. |
| Respond to and restore all system and service outages and trouble calls/tickets within the required time constraints specified in the PWS | 1.2.4 | Emergency – Zero instances exceeding response/restoration times<br><br>Priority No more than one instance exceeding response/restoration times per quarter.<br><br>Routine – No more than one instance exceeding response/restoration times per month |
| Provide location, staking, and marking services | 1.2.6 | Emergency – Zero instances exceeding completion time<br><br>Priority – No more than one instance exceeding completion time per quarter.<br><br>Routine – No more than one instance exceeding completion time per month. |
| Provide Contractor support services IAW the PWS | 1.2.12 | No more than one instance per quarter of failure to provide support/interface |
| Technical Solutions IAW PWS | 1.2.13 | No more than one instance of failure to provide an implementable technical solution within specified time frame per month. |

| | | |
|---|---|---|
| Update work center records | 1.2.14 | No more than two instances exceeding timeframe specified within PWS per month.<br><br>No more than one work-center records update error per month. |
| Comply with established procedures for completion of work orders | 1.3. | Emergency – Zero instances exceeding PWS timeframes<br><br>Priority – No more than one instances exceeding PWS timeframe per quarter.<br><br>Routine – No more than two instances exceeding PWS time frame per month. |
| Comply with all security protocols. | 4.7.3, 4.8.5 | Zero instances of a violation of any security requirement. |

**2.1. QUALITY CONTROL.**

The contractor shall employ his commercial quality control program and procedures to identify, prevent, and ensure non-recurrence of defective services. As a minimum, the contractor shall employ quality control procedures that address the areas identified in paragraph 2, Service Summary. Through implementation of the contractor's quality control program/procedures, the Government shall receive quality services meeting the requirements of this contract. All quality control records shall be kept and made available to the Government throughout the contract performance period and for the period after contract completion until final settlement of any claims under this contract.

**2.2. QUALITY ASSURANCE.**

The CO shall appoint a primary and alternate COR for management of the day-to-day activities of the contract. The identity, title and authority of this representative will be provided in writing to the contractor after contact award. The Government may use various quality assurance methods to determine the contractor's compliance with the PWS and the contract requirements in accordance with FAR Clause 52.212-4, Contract Terms and Conditions – Commercial Items (a) Inspection/Acceptance. The contractor's performance will be evaluated through intermittent on-site inspections of the contractor's quality control program and receipt of complaints from base personnel. The Government may inspect each task as completed or increase the number of quality control inspections, if deemed appropriate, because of repeated failures discovered during

quality control inspections or because of repeated customer complaints. Likewise, the Government may decrease the number of quality control inspections if performance dictates. The Government will also receive and investigate complaints from various customers located on the installation. The COR shall make the final determination of the validity of customer complaint(s) in cases of disagreement with customer(s). Additionally, 22d Communications Squadron and 22d Contracting Squadron will manage a Government Quality Assurance Program in accordance with DOD and Air Force policy.

**2.3. COR MONTHLY REPORT.**

The COR shall summarize the surveillance and assess the contractor's performance for the previous month. This monthly report will be forwarded to the Functional Commander/COR Supervisor, then to the Contract Administrator (CA). The CA will forward the report to the Contractor for his review and signature. The contractor has five (5) calendar days to review and return the report to the CA. The contractor may provide additional facts to mitigate performance issues or to point out efforts above and beyond the contract requirements to justify a higher performance rating. After the contractor responds or five (5) days have elapsed, the CA will forward the report to the CO for resolution of any conflicting opinions and finalization of the report. The CA will forward the finalized report to all parties.

**2.4. PERIODIC PROGRESS MEETINGS.**

The CO, Functional Commander, COR, other government personnel as appropriate, and the contractor shall meet approximately 30 days after the commencement of performance and then approximately quarterly to review the contractor's performance. The following issues could potentially be discussed:

- Opportunities to improve the contract
- Any modifications required of the contract
- Unsatisfactory inspections and trends against each performance objective observed.
- Positive performance
- Steps taken by the Contractor to prevent unsatisfactory occurrences in the future.
- Resolve any Government interference with the contractor's performance.

The minutes of these meetings will be reduced to writing, signed by the CO and any other signatures as deemed appropriate, distributed to the functional and the contractor. Should the contractor not concur with the minutes, the contractor shall provide a written notification to the CO identifying areas of non-concurrence for resolution.

**3.0. GOVERNMENT-FURNISHED PROPERTY AND SERVICES.**

**3.1. Air Force-Provided Spares\Contactor Logistic Support.**
Contractor logistic support for Voice Switching System (VSS) (for equipment identified under Appendix 5.2.3) is managed by Ogden ALC 84 SCSG/GBSVS and CITS GIG SG/KZ through a contract with American Systems. This contract, awarded in FY 2017, covers depot level support for Nortel, Avaya, Lucent and Siemens telephone switches. Detailed procedures are described in Air Force Cyber Transport System (CTS) sustainment services, published by American Systems Corporation.

**3.2. Base Support.**
Base support shall be provided by the Government to the Contractor in accordance with the terms of this contract. Failure by the Contractor to comply with the requirements shall release the Government, without prejudice, from its obligation to provide base support by 30 calendar days after contract award. If warranted, and if the Contractor has complied with the requirements, an equitable adjustment shall be made if the Government fails to provide base support by 90 calendar days after contract award.

**3.2.1.** Base support includes Government-controlled working space, material, equipment, services (including automatic data processing), or other support (excluding use of the Defense Switched Network (DSN)) which the Government determines can be made available at, or through, any Air Force installation where this contract shall be performed.

**3.2.2.** Unless otherwise stipulated below, support shall be provided on a no-charge-for-use basis, and the value shall be a part of the Government's contract consideration.

**3.2.3.** An inventory of government-furnished equipment will be conducted by the contractor and the COR not later than 5 calendar days before the start of the contract, within 10 calendar days of the start of any option periods, and not later than one (1) calendar day before completion of contract period. The contractor shall sign a receipt for all equipment provided by the Government. Equipment items missing or not in working order shall be recorded and the Contracting Officer notified in writing. The contractor and the Government representative shall jointly determine the working order and condition of all equipment and document their findings on the inventory. In the event of disagreement between the contractor and the Government representative on the working order and condition of equipment, the disagreement shall be referred to the Contracting Officer for resolution.

**3.2.4.** The Government support to be furnished under this contract is:

**3.2.4.1. Space**: Telephone switch room and administrative office space – approx 700 square feet.

**3.2.4.2.** Utilities: Electricity, water, sewage, heating and air conditioning for Government- provided space and facilities.

**3.2.4.3.** Storage: Area will be provided for spares and supplies.

**3.2.4.4.** Telephones: Local telephone service consisting of on-base class "C" or equivalent telephone service. Telephone use is limited to matters related to the performance of this contract.

**3.2.4.5.** Base Refuse Collection: Trash disposal for all trash accumulated during administrative functions.

**3.2.4.6.** Insect and rodent control for all Government facilities.

**3.2.4.7.** Security/Police: General on-base Security Forces service. The Government will furnish appropriate telephone numbers.

**3.2.4.8.** Emergency Medical Service: Emergency medical treatment for Contractor personnel while they are performing duties associated with the contract. Contractor shall reimburse the Government for the cost of medical treatment and patient transportation at the current inpatient or outpatient treatment rate as appropriate.

**3.2.4.9.** Forms and Publications: Government forms and publications required by the contract to perform the work required by the contract.

**3.2.4.10.** Base Civil Engineers: Fire prevention, inspection, and maintenance of Government- furnished fire systems and extinguishers.

**3.2.4.11.** Parking: Space is available for common vehicles.

**3.2.4.12.** Government Furnished Equipment.

**3.2.4.12.1.** The Government will furnish the following equipment. The equipment shall be used for performance of this contract only. The Government shall be responsible for the maintenance, repair, and replacement of all Government-furnished equipment, except for that equipment broken, damaged, or harmed through the negligence or intentional misuse or actions of the contractor or its representatives. The repair or replacement of Government-furnished equipment that has been broken, damaged, or harmed through the negligence or intentional

misuse or actions of the contractor or its representatives will be the responsibility of the contractor. This list of equipment is subject to change as replacement equipment is received.

| Nomenclature | Quantity |
|---|---|
| High-back Rolling Secretary Chair | 4 each |
| Clock 12 hour/battery operated | 1 each |
| Mobile Pedestal (file cabinet) | 1 each |
| Workstation w/overhead shelves | 4 each |
| 2 line capable telephone | 4 each |

**3.2.4.12.2.** The Government will furnish the following equipment, available as is, which will be SHARED by the Contractor and the Government.

| Nomenclature | Quantity |
|---|---|
| Refrigerator | 1 each |
| Microwave Oven | 1 each |
| Vacuum cleaner | 1 each |

**3.3. Government Support for CVC Efforts.**

**3.3.1. Computers (CVC).**
Each Government-provided workspace will be equipped with a workstation computer connected to the Air Force's Non-Secure Internet Protocol Router Network (NIPRNet) complete with the US Air Force Standard Desktop Configuration software suite and other software necessary to maintain BTS Records. The Government will not provide software necessary to interface the Government computer with Contractor-provided equipment or software.

**3.3.2. CVC Training.**
The Government will provide training for Contractor personnel locally at McConnell AFB. Contractor personnel who are designated to receive training are required to have a Government-issued Common Access Card (CAC) in their possession. The Government will provide the facilities, instructors, schedule of training dates, and all training materials and equipment.

**4.0. GENERAL INFORMATION.**

**4.1. HOURS OF OPERATIONS.**
The contractor shall perform inspections and maintenance and be available for receipt of routine service calls Monday through Friday, 7:00 a.m. through 6:00 p.m., excluding federal holidays. The contractor shall also be available for emergency service calls/repairs, 24 hours a day, seven

(7) days a week, including all federal holidays. A contractor representative shall be available to provide emergency service calls shall be available 24 hours a day, including weekends and holidays.

**4.2. MILITARY EXERCISES.**
When a military exercise is in force, the contractor shall not be held liable for non-accomplishment of the routine workload during that time period if that non-accomplishment was caused by the military exercise.

**4.3. HOLIDAYS.**
The contractor shall not be required to provide services during Federal holidays with the exception of emergency service calls/repairs under paragraphs 1.2. and 1.3. Federal holidays are defined as follows: New Years' Day, Martin Luther King's Birthday, President's Day, Memorial Day, Independence Day (July 4th), Labor Day, Columbus Day, Veteran's Day, Thanksgiving Day and Christmas Day. Holidays occurring on Saturday will be observed the preceding Friday. Those occurring on Sunday will be observed the following Monday.

**4.4. PERFORMANCE OF SERVICES DURING CRISIS DECLARED BY THE NATIONAL COMMAND AUTHORITY OR OVERSEAS COMBATANT COMMANDER.**
In accordance with DFARS 237.76, Continuation of Essential Contractor Services, the Government has determined that services performed under this contract **are** essential contractor services in support of a mission-essential function that must continue during crisis situations. IAW Defense Federal Acquisition Regulation Supplement (DFARS) clause 252.237-7023, The O&M services in PWS paragraphs 1.2.1, 1.2.2, and 1.2.4 are essential during a crisis situation. In the event of a crisis, additional areas may be identified by the Contracting Office (CO). The Contractor may be required to support base mission changes; major or minor BTS infrastructure modifications; and other support requirements necessary for the BTS to meet mission requirements. Base exercises or actual ongoing base security events frequently interrupt missions. Support requirements may originate from technology changes, hardware and software systems upgrade, reconfigurations, new or additional equipment, local area network (LAN) cable installations and upgrade, and Dial Central Office (DCO) reconfigurations. This includes routing/diversity requirements and any other environmental changes that could impact or alter the base BTS.

**4.5. CONTRACT MANAGEMENT.**
The contractor shall establish and maintain an office through which the contract manager or alternate(s) can be contacted during work hours. The contract manager or alternate shall be available during normal duty hours to meet on the installation within 1 hour with the government

personnel designated by the CO to discuss problem areas. The contractor shall provide the CO telephone number(s) where validation results and complaints can be reported. The contractor shall also provide to the CO the names and phone numbers of contractor POCs for after business hours including nights, weekends, and holidays. This information will be kept updated by the contractor whenever personnel changes occur. The contract manager or alternate shall have full authority to act for the contractor on all contract matters relating to the daily operation of this contract.

**4.6. ENVIRONMENTAL COMPLIANCE.**
The contractor shall comply with all federal, state, local and installation environmental laws, rules and plans. McConnell AFB is a federal installation. McConnell AFB meets or exceeds the strictest environmental requirements in effect. Therefore, the contractor shall also meet or exceed the strictest requirements in effect, federal, state or local. IAW FAR 23.705 and FAR Clause 52.223-10, Waste Reduction Program, the contractor shall participate in the McConnell AFB recycling program.

**4.6.1. ENVIRONMENTAL MANAGEMENT SYSTEM (EMS).** Executive Order (EO) 13423 (Strengthening Federal Environmental, Energy, And Transportation Management) directs Federal Agencies and contractors working for Federal Agencies to set goals in the areas of energy efficiency, acquisition, renewable energy, toxic reductions, recycling, sustainable buildings, electronics stewardship and water conservation. McConnell AFB has an EMS to comply with EO 13423. A key element of McConnell's EMS is base-wide awareness of the Wing's Environmental Management Program. To that end, the contractor shall educate its employees to be aware of the Wing's EMS. Material for the contractor's use will be given at the Pre-performance conference. The OPR is McConnell's EMS Coordinator located in 22 CES/CEIEC.

**4.6.2. NOTIFICATION OF ENVIRONMENTAL SPILLS.** The contractor shall immediately report to the Fire Department, COR, and Contracting Officer any incident in which the contractor spills or releases any hazardous or non-hazardous, but regulated, material substance into the environment. The contractor shall be liable for the costs of cleanup and remediation of any spills or the release of such substance into the environment.

**4.7. CONTRACT EMPLOYEES.**
All contract personnel must be able to read, write, speak and understand English fluently. Contract personnel shall present a neat appearance and be easily identified as a contract employee. The contractor shall obtain base identification and vehicle passes for all employees who make frequent visits to or perform work on McConnell AFB. Contractor personnel are required to wear or prominently display installation identification while visiting or performing

work on the installation. The contractor shall not employ persons for work on this contract identified to the contractor by the CO as a potential threat to the health, safety, security, general well-being or operational mission of the installation and its population. Each employee will be easily identified by wearing distinctive clothing bearing the name of the company or by wearing appropriate badges that contain the company name and employee names. The contractor shall not employ any person who is an employee of the Government, if employing that person would create a conflict of interest. The contractor is cautioned that off-duty active military personnel hired under this contract may be subject to permanent change of station, change in duty hours, or deployment. Military Reservists and National Guard members may be subject to recall to active duty. The abrupt absence of these personnel could adversely affect the service provider's ability to perform; however, their absence at any time shall not constitute an excuse for non-performance under this contract. The use of active duty, reserve, national guard, or dependent Identification cards in support of contract work is prohibited and constitutes misuse as prescribed in USC Title 18 Sec. 499, AFMAN 31-113, and DODI Chapter 6.

**4.7.1. Personnel.**
The Contractor is solely responsible for ensuring sufficient personnel are assigned to this contract and all personnel are qualified and certified to perform the requirements listed herein, including those qualifications and certifications required by the OEM requirements to maintain, install, or operate the equipment covered by this contract.

**4.7.2. Key Personnel Listing.** Contractor shall provide a key personnel listing and contact information to the COR prior to commencing work and update information on a continual basis as changes occur to ensure it is always current and correct throughout the life of the contract. All personnel shall be proficient in understanding, reading, writing, and speaking the English language. The key personnel list shall list the employees' names, function they support, and whether they are supporting O&M or work orders, and what percentage of each.

**4.7.3. Critical Contract Employee Responsibilities.** All contract personnel (employees, service providers, and visitors) and vehicles (including as appropriate privately or commercially owned vehicles, watercraft, or aircraft) will be in an approved work area at all times while on the installation. All individuals will have appropriate identification on their person and visible at all times. Upon contract completion, or dissolution of employment, employees will return any issued access card/credentials to the COR.

**4.8. SECURITY REQUIREMENTS.**
The contractor shall comply with all requirements and procedures IAW AFFARS 5352.242-9000, Contractor Access to Air Force Installations included herein. All contract employees shall carry contractor photo identification at all times. Contractor employees shall comply with any

base security measures implemented at all times. This includes, but is not limited to, vehicle and goods searches and identification checks during times of increased security.

**4.8.1. Contractor/Employee Base Pass and Identification, Special Clearances and Vehicle Passes.** The contractor shall comply with all requirements and procedures IAW FAR 5353.242-9000, Contractor Access to Air Force Installations. Strict security and personnel access control is enforced at MAFB. All employees desiring access must be identity proofed and vetted. All Contractor and sub-contractor must pass a Criminal History Report Inquiry [CHRI] through National Crime Information Center [NCIC], National Law Enforcement Telecommunication System [NLETS], state and local law enforcement databases. The primary contractor will ensure all employees possess proper credentials allowing them to work in the United States. IAW E.O 12989, the use of E-Verify is mandatory. Identification required for identity proofing is but not limited to:

- United States Passport
- Permanent Registration Card/Alien Registration Receipt Card [Fm I-551]
- Foreign Passport with a temporary [I-551] stamp or temporary [Fm I-551] printed notation on machine readable immigrant visa
- Employment authorization document that contains a photograph [Fm I-766]
- Current REAL ID Compliant /Valid Driver's License
- Identification card issued by federal, State or Local Government
- Social Security Card
- I-9
- Foreign passports with a current arrival-departure record (Form I-94) bearing the same name as the passport and containing an endorsement of the alien's nonimmigrant status, if that status authorizes the alien to work for the employer. In the case of a nonimmigrant alien authorized to work for a specific employer incident to status, a foreign passport with Form I-94 or Form I-94A bearing the same name as the passport and containing an endorsement of the alien's nonimmigrant status, as long as the endorsement has not yet expired and the proposed employment is not in conflict with any restrictions or limitations identified on the form.

Employees will be identity proofed and vetted each time a pass/credential is issued. Security Forces may conduct random screenings at any time; if, disqualifying information as prescribed in DoD, Air Force, or local directives is found employees may be denied access. The Contract Administrator will be notified of the denial. Due to mandates of USC 552a (b) (3) as related to Privacy Act 1974 as amended the information can only be discussed with the employee and will not be expressed outside of law enforcement. Employees requesting to contest denial of installation access, or requesting a waiver/exception to policy must submit a written rebuttal

/request to Commander, 22nd SFS/CC, through 22nd SFS/S3, Attention: 22nd SFS/S3PC, McConnell AFB KS 67221.

The contractor shall not be entitled to any compensation for delays or expenses associated with complying with the provision of this clause. Furthermore, nothing in this clause shall excuse the contractor from proceeding with the contract as required.

The application for a pass/credential if driving must be accompanied by a valid REAL ID compliant driver's license, state vehicle registration and proof of insurance. Further, the vehicles and equipment may be escorted during exercise operations and may be rendered immobile when not in operation by the removal of ignition keys or by other readily reversible means. Contractor vehicles are subject to search prior to entering and exiting the base and while on the base. If the contractor's personnel refuse to be searched, they will be denied entry to the base. Denial of entry to personnel who refuse to be searched, or detention of personnel found to be in possession of contraband, may result in loss of base driving privileges, debarment from the base, or other administrative action.

**4.8.2. Contractor/Vendor Access Request/Authorization (CVARA).** The contractor shall submit the formatted CVARA Template to the CO at least ten business days to the anticipated access date for each employee or Sub-Contractor requiring access to the base. Failure to submit complete and accurate information may result in a delay or denial of access. Contract employees who are not U.S. citizens must also submit an INS Form I-9 accompanied with copies of supporting documentation. The CVARAT will be provided electronically after award.. Use of the CVARAT is required. This document must be submitted in electronic format. Copied or scanned versions of this document are not acceptable. This document shall be submitted electronically attached to an email to the designated CA. Pass and registration officials provide a secure website for contractors to use for the protection of the required personal information: (https://spi.dod.mil/). This site provides instructions for a Microsoft encryption wizard. Please forward instructions for the use of this encryption wizard to the CA. The other option is the single use source of (https://safe.amrdec.army.mil/safe/Welcome.aspx). After following the instructions to create an account a contractor would sign into the site as a non-Common Access Card user, upload the CVARA document(s), provide a recipient email address and password. An email is sent to the recipient with notification that the files are available and a password. The CA signs in as a CAC user, provides the password and downloads the file(s). Contractor credentials and passes will not be issued to personnel waiting for the CVARA to be processed. Upon approval of the CVARA, the employee or sub-Contractor may apply for a Government issued identification badge at the Contractor Badge Office. The contract employee must have a government issued photo identification. All base access credentials must be returned to the Contractor Badge Office upon termination of employment or the end of the contract.

**4.8.3. ACCESS TO GOVERNMENT COMPUTER NETWORK (COMMON ACCESS CARD) (This section supplements AFFARS Clause 5352.242-9001.)**

**4.8.3.1.** Each Government-provided workspace will be equipped with a workstation computer connected to the Air Force's Non-Secure Internet Protocol Router Network (NIPRNet) complete with the US Air Force Standard Desktop Configuration software suite and other software necessary to maintain BTS Records. The Government will not provide software necessary to interface the Government computer with Contractor-provided equipment or software. In order to access these computers, contract employees must be eligible to obtain access to the Government unclassified automated information systems. Said employee(s) with access to the system are in a non-sensitive public trust position and therefore a minimum of a Tier 1 background investigation (formerly National Agency Check with Inquiries (NACI)) is required for access.

**4.8.3.2.** The Contractor shall fully adhere with the provisions of these referenced publications by having said employee(s) submit the appropriate forms and maintain a positive suitability determination to continue performing under this contract.

**4.8.3.3.** Said employee shall complete and forward through the contractor McConnell AFB Base CVARA (provided at the pre-performance conference) a minimum of 10 business days prior to the employee requiring base access. The COR/Trusted Agent shall schedule an appointment on behalf of the contractor's employee with the appropriate Government Unit Security Manager (USM).

**4.8.3.4** The USM shall obtain access for the contract employee to the Electronic SF-85, Electronic Questionnaires for Investigations Processing (e-QIP) Direct. The Contractor shall ensure said employee(s) bring the necessary documentation requested on the SF-85 (e.g., current and previous addresses in the past 7 years, zip codes, telephone phone numbers, passport numbers, family member names, SSNs) to prevent delays in completing the SF-85 form. A copy of the SF-85 is available at the following link: http://www.opm.gov/forms/pdf_fill/SF85.pdf for use by the contract employee as a worksheet.

**4.8.3.5.** The USM shall arrange for the government-obtained fingerprints (FD-258, FBI Fingerprint Card). The fingerprints and the e-QIP SF85 shall be forwarded through the National Background Investigation Bureau (NBIB) for investigation to the Department of Defense Consolidated Adjudication Facility (DODCAF) for review of investigation and adjudication. The Contractor shall advise their employee(s) that a favorable report, verified through the appropriate validation database, is required as a condition for access to the system. Upon

notification of a favorable response based upon the fingerprints the contract employee may be granted interim access. Upon notification of a favorable response the Trusted Associate Security System Trusted Agent shall create an application in the TASS system. Upon approval of the application the contract employee shall report to the DEERS office to be issued a CAC. The contract employee shall complete and sign a DD2875 requesting access to the NIPR network to be processed by the Communications Squadron Information Assurance person. Temporary or interim access to government systems in non-sensitive positions pending the outcome of the background investigation (Tier 1), the contract employee shall be immediately denied access to the system if the background investigation (Tier 1) returns an unfavorable or no determination made adjudication.

**4.8.4. OPERATIONS SECURITY (OPSEC).** In the event it is necessary to create, handle and/or maintain critical information for McConnell AFB, contracted personnel must meet the requirements and responsibilities established in the Operations Security Instruction, AFI 10-701 and the 22 ARW OPSEC Plan. AFI 10-701 specifically states that "OPSEC is everyone's responsibility." Ideally, the AF uses OPSEC measures to protect its critical information. Failure to properly implement OPSEC measures can result in serious injury or death to personnel; damage to weapons systems, equipment and facilities; loss of sensitive technologies; and mission degradation or failure. OPSEC must be fully integrated into the execution of all Air Force operations and supporting activities, therefore all contractors will do the following:

- Protect McConnell AFB critical and/or sensitive information from disclosure by following the "need to know" principle.
- Not publicly post, publish or share work-related information that potentially contains any critical or sensitive information. Contractors are encouraged to solicit the advice of the Wing OPSEC Program Manager with any questions they may have regarding the use of McConnell AFB's sensitive/critical information.
- Not share McConnell AFB sensitive/critical information in articles, electronic mail (e-mail), web site postings, web log (blog) postings, internet message board discussions, or other forms of dissemination or documentation.
- Encrypt all e-mail messages containing critical information, OPSEC indicators, and other sensitive information when possible. Encryption serves as one measure to protect critical or sensitive information transmitted over unclassified networks.
- Not publicly disseminate, or publish photographs of McConnell AFB or USAF property without prior approval from the Wing OPSEC Program Manager.
- Not publicly reference, disseminate, or publish McConnell AFB's information that may have already been compromised. This provides further unnecessary exposure of the compromised information and may serve as validation.
- Actively encourage fellow contractors to protect McConnell AFB's critical and/or sensitive information.

- Return to either the Project Manager or COR for destruction (burn, shred, etc.) any/all critical and/or sensitive unclassified information no longer needed to prevent the inadvertent disclosure and/or reconstruction of this material. Electronic documents should also be deleted and wiped clean from all computer systems used during the contractual work.
- Implement protective measures as ordered by McConnell AFB's commander, director, OPSEC PM or an individual in an equivalent position.
- Know who the installation's OPSEC PM is and contact them with questions, concerns, or recommendations for OPSEC related topics.
- Report attempts by unauthorized personnel to solicit critical and/or sensitive information to the OPSEC PM or installation Security Forces immediately. Contract personnel who have been involved in or have knowledge of a possible incident will report all facts immediately.

**4.8.5. ANTITERRORISM.** Each contract employee must accomplish the Anti-Terrorism Awareness Training as stated in the provision/clause AFFARS 5352.242-9000, CONTRACTOR ACCESS TO AIR FORCE INSTALLATIONS. MAFB has an antiterrorism program to secure and protect the base and its personnel from terrorist attacks. As a contractor working on MAFB, you, your employees and your sub-contractors are required to obey all orders from Security Forces, and adhere to all security measures implemented as a result of Force Protection Condition changes (security posture changes). Contractors should be familiar with local security procedures that govern access to the base. Contractors should anticipate random schedules, changing access/search requirements and changes in the local threat level. Contractors providing mission essential goods and services during elevated FPCONs, or in areas with mission critical personnel, equipment, and facilities should anticipate additional security and AT requirements. Elevated FPCON conditions may result in increased crime prevention efforts, closer inspection of vehicles and deliveries, denial of access or evacuation. Additionally, you, your employees and your sub-contractors are expected to report to base security forces any suspicious activities, packages, or items you see while conducting work on MAFB. Suspicious activities could include personnel conducting surveillance of the installation, unauthorized personnel requesting access to the installation, or somebody asking questions about the base. In order to familiarize you, your employees and sub-contractors about antiterrorism, a briefing will be provided at the pre-performance conference. All contract employees shall receive an AT Awareness briefing and be issued the AT Level I information pamphlet at credential issue

**4.9. INTERFACES.**

The contractor shall not unduly interfere with regularly scheduled government operational activities in the performance of contract requirements. In the event a government supervisor so requests, the contractor shall temporarily cease work in the area and report the instructions, to

include name of the government person involved, to the COR immediately. The contractor shall notify the COR verbally of disputes with customers or other base contractors and follow-up in writing.

**4.10. SAFETY REQUIREMENTS AND REPORTS.**
The contractor shall perform work in a safe manner as required by OSHA safety and health requirements. The contractor shall provide a verbal report to the COR as soon as possible of each occurrence of damage to Government property or an accident resulting in death, injury, occupational disease, or adverse environmental impact. The contractor shall provide a completed copy of required accident investigation reports to the COR within five calendar days of each occurrence.

**4.10.1. Accident/Incident Reporting and Investigation.**
The Contractor shall record and report all available facts relating to each instance of accidental Government property damage or Contractor personnel injury to the Contracting Officer Representative (COR) within two hours of the incident. The Contractor shall secure the scene of any accident and wreckage until released by the accident investigative authority through the Contracting Officer (CO). If the Government elects to conduct an investigation of the incident, the Contractor shall cooperate fully with the COR, CO, and other Government investigation personnel until the investigation is completed.

**4.10.2. Base Civil Engineering Work Clearance Requests.**
The Contractor atmospheric testing/forced air ventilation, and marking and barricading of open trenches are to be performed IAW Occupational Safety and Health Act (OSHA) standards, AFOSH, any local procedures and other provisions of this contract.

**4.11. REPORTS AND RECORDS.**
The contractor shall create, handle and maintain records for the Air Force, regardless of medium, in accordance with the requirements established in AFRIMS Records Disposition Schedule (RDS), AFI 33-322, Records Manage Program, AFI 33-364, Records Disposition Procedures and Responsibilities, and AFM 33-363, Management of Records. Full text versions of these publications are available for free download athttp://www.e-publishing.af.mil/ (pubs/majcom.asp?org=AF). Inquiries as to the specific actions necessary to meet the requirements established in the above referenced publication may be directed to the McConnell Records Management Office at 22 CS/SCOKR, Bldg. 739, McConnell AFB, KS, 67221.

**4.12. LABOR HOUR REPORTING.**
The contractor shall report ALL contract labor hours (including subcontract labor hours) required for performance of services provided under this contract for the hangar door and overhead door

services using the Contractor Manpower Reporting Application (CMRA). The contractor is required to completely fill in all required data fields at http://www.ecmra.mil. Report inputs will be for the labor executed during the period of performance for each Government fiscal year (FY), which runs 1 October through 30 September. While inputs may be reported any time during the FY, all data shall be reported no later than 31 October of each calendar year. Please direct questions to the CMRA help desk. The contractor is required to completely fill in all required data fields at http://www.ecmra.mil.

## 5.0 APPENDICES.

Appendix 5.1 – Workload Estimates
Appendix 5.2 – Items to be Maintained by the Contractor
Appendix 5.3 – Glossary and Acronyms
Appendix 5.4 – Voice Switching System (VSS) Sustainment
Appendix 5.5 – Applicable Documents
Appendix 5.6 - Global Positioning System Service Documents

## APPENDIX 5.1 - WORKLOAD ESTIMATES

**5.1.1. General**.

The following workload estimates are established based upon those tasks identified in Section 1 of the PWS. Estimates are yearly unless stated otherwise and are based upon previous history and current requirements. Estimates are not to be construed as "not to exceed" limitations.

**5.1.2. Operation and Maintenance (O&M) Services**

**5.1.2.1. Restore Outages.**

**Main Base**

| | |
|---|---|
| Routine | 600 ea |
| Priority | 100 ea |
| Emergency | 35 ea |

**5.1.2.2. Technical Solutions**

| | |
|---|---|
| Routine | 100 ea |
| Priority | 10 ea |
| Emergency | 5 ea |

**5.1.3. Work Orders.**

(See PWS Section 1.3.)

**Main Base**

| | |
|---|---|
| Routine Orders | 600 ea |
| Priority Orders | 60 ea |
| Emergency Orders | 35 ea |
| CWR Work Orders (*) | 3 ea |

- **The number of CWR Work Orders is included in this table to provide an estimate of how many of the total estimated numbers of work orders are also for CWR. These are included in the number of Routine, Priority, or Emergency work orders as they could fall into any of those categories as well.**

## APPENDIX 5.2 - ITEMS TO BE MAINTAINED BY THE CONTRACTOR

**5.2.1. General**.
This appendix identifies the items, equipment, material, and facilities to be maintained by Contractor.

**5.2.2. Contractor-furnished equipment (CFE)/Contractor-furnished material (CFM).**
Equipment listed below will require Contractor to provide replacement parts or to repair the defective items and all technical support. Contractor shall operate and maintain these items IAW the requirements specified in this PWS.

**5.2.2.1 Customer Premise Equipment (CPE)**

| DESCRIPTION | QTY | MANUFACTURER |
|---|---|---|
| Analog Phone Sets | 47 | |
| 2500 Phone Set | 1000 | |
| M2000 Series | 20 | Nortel |
| M3900 Series | 4200 | Nortel |
| M2004 VoIP Set | 41 | Nortel |
| 1140E VoIP Set | 20 | Avaya |
| 9600 Series | 500 | Avaya |
| **Total** | 5828 | |

**5.2.3. GFE/GFM items listed below will have Air Force-provided spares** (see section 3.0 and Appendix 5.4) and will not require the Contractor to provide replacement parts or to repair the defective items. The Contractor shall maintain and operate these items IAW the requirements specified in this PWS with the exception of repairing the defective items.

**5.2.3.1. Dial Central Office (DCO) Switching System.** The DCO switch is a Meridian 1 Option 81C (CS1000), software Release Succession 4.5. It is assigned approximately 4973 lines, equipped with 8392 lines. The switch is comprised 2 Core/Network modules, 8 Network modules, and 41 Intelligent Peripheral Equipment (IPE) modules in the DCO Building, Squadron Operations Building, Clinic Building, Headquarter Building, Dole Center Building, and MXS Building respectively as follows:

| COLUMN | DESCRIPTION |
|---|---|
| 0 | Network Module NG4 SH0 |
| 0 | Network Module NG0 SH1 |
| 0 | Network Module NG0 SH0 |
| 0 | Core/Network Module NG3 SH0 |

| | |
|---|---|
| 1 | Network Module NG4 SH1 |
| 1 | Network Module NG2 SH1 |
| 1 | Network Module NG2 SH0 |
| 1 | Core/Network Module NG3 SH1 |
| 2 | IPE 116-0 |
| 2 | Network Module NG1 SH1 |
| 2 | Network Module NG1 SH0 |
| 2 | Blank (Meridian Mail Removal) |
| 3 | IPE 120-1 |
| 3 | IPE 120-0 |
| 3 | IPE 104-1 |
| 3 | IPE 104-0 |
| 4 | IPE 76-1 |
| 4 | IPE 76-0 |
| 4 | IPE 72-1 |
| 4 | IPE 72-0 |
| 5 | IPE 84-1 |
| 5 | IPE 84-0 |
| 5 | IPE 80-1 |
| 5 | IPE 80-0 |
| 6 | IPE 52-1 |
| 6 | IPE 52-0 |
| 6 | IPE 48-1 |
| 6 | IPE 48-0 |
| 7 | IPE 36-1 |
| 7 | IPE 36-0 |
| 7 | IPE 32-1 |
| 7 | IPE 32-0 |

**5.2.3.1.1 Voice Over Internet Protocol (VoIP) System.** VoIP system has approximately 220 assigned and equipped with 520 user licenses. It is comprised of equipment as follows.

| DESCRIPTION | QTY | MANUFACTURER |
|---|---|---|
| VoIP Server | 2 | Nortel |
| VoIP Base Baystack 5520-24T-PWR | 2 | Nortel |

**5.2.3.1.2 Voice Mail.** Voice Mail System is CallPilot 03.03.06, TRP 1002RP with 2,400 Hours of Voice Storage approximately equipped 48 ports for 3,370 mailboxes, assigned 2,984 mailboxes .

**5.2.3.1.3. Transmission Equipment**

| DESCRIPTION | QTY | MANUFACTURER |
|---|---|---|
| Fiber Multi-IPE Interface Multiplexer (to Bldg 978, 250, 412, 1183, 1, and 1170) | 7 | Nortel |
| iMedia Center 2-Slot Managed Chassis | 1 | IMC |
| Fiber Optic Multiplexer | 1 | Canoga Perkins |
| Transition Networks Point System CPSMC1900 | 1 | Transition Networks |
| Fiber Modem (Local Loop) | 1 | RAD |
| B70 Tower Fiber Multiplexer – Model TC8801 | 4 | TC Communications |

**5.2.3.1.4. Power Equipment**

| DESCRIPTION | QTY | MANUFACTURER |
|---|---|---|
| Power Equipment Panel 600/48 | 1 | Astec |
| Helios System Rectifier 50/48 | 6 | Nortel Networks |
| Batteries – Type 100G23, 1096AH @ 8 hour to 1.75VDC | 8 stacks | Absolyte |

**5.2.3.1.5. Communication Manager.** The Communication manager (CM6 system is comprised of an Avaya Application Server (AS) associated components located in the DCO Building, McConnell AFB, KS. The CM6 services such as hard phones, soft clients, voice capabilities to McConnell AFB subscribers. The CM6 equipment interfaces to the host Communication Server (CS) 1000 via standards based ISDN-PRI circuits on an Audio codes 8 port ISDN-PRI gateway. A list of equipment is detailed below:

| DESCRIPTION | MANUFACTURER |
|---|---|
| CM-PBX | Avaya |
| Communication MGR-A | Avaya |
| Communication MGR-B | Avaya |
| Presence-SVR | Avaya |
| SYSTEM MGR | Avaya |
| DHCP & HTTP | Avaya |
| FTP Server | Avaya |
| Avaya G450 GATEWAY-1 | Avaya |
| Avaya G450 GATEWAY-2 | Avaya |
| Avaya G450 GATEWAY-3 | Avaya |
| ION-BOX | Avaya |
| MEDIA-GATEWAY #1 | Avaya |
| MEDIA-GATEWAY #2 | Avaya |
| MEDIA-GATEWAY #3 | Avaya |

**5.2.3.2. Squadron Operations Fiber Remote Intelligent Peripheral Equipment (FRIPE):** The FRIPE is located in The Squadron Operations Building.

| COLUMN | DESCRIPTION |
|---|---|
| 1 | IPE 112-1 |
| 1 | IPE 112-0 |
| 1 | IPE 100-0 |
| 1 | IPE 96-0 |
| 2 | IPE 100-1 |
| 2 | IPE 96-1 |
| 2 | IPE 20-0 |
| 2 | IPE 16-0 |

**5.2.3.2.1. Transmission Equipment**

| DESCRIPTION | QTY | MANUFACTURER |
|---|---|---|
| Fiber Remote Multi-IPE Interface Multimode (96-0, 100-0, 112-0, 112-1) (16-0, 20-0, 96-1, 100-1) | 2 | Nortel |

**5.2.3.2.2. Power Equipment**

| DESCRIPTION | QTY | MANUFACTURER |
|---|---|---|
| MFA 150 Interconnect and Distribution Unit | 1 | Nortel |
| MPR25 | 3 | Nortel |
| 2 Strings Batteries – Type 90A-11, 400 Amp Hrs | 12 stacks | GNB Absolyte IIP |

**5.2.3.3. Clinic FRIPE**: The FRIPE is located in the Clinic Building.

| DESCRIPTION |
|---|
| IPE 116-1 |
| IPE 88-1 |
| IPE 88-0 |

**5.2.3.3.1. Transmission Equipment**

| DESCRIPTION | QTY | MANUFACTURER |
|---|---|---|
| Fiber Remote Multi-IPE Interface Singlemode (88-0, 88-1, 116-1) | 1 | Nortel |

**5.2.3.3.2. Power Equipment**

| DESCRIPTION | QTY | MANUFACTURER |
|---|---|---|
| MFA 150 Interconnect and Distribution Unit | 1 | Nortel |
| MPR25 Switch Mode Rectifier | 2 | Nortel |

| | | |
|---|---|---|
| Batteries – Type 50G05, 10 Amp Hrs | 4 stacks | Absolyte Exide |

**5.2.3.4. Headquarters FRIPE:** The FRIPE is located in the Headquarters Building.

| DESCRIPTION |
|---|
| IPE 20-1 |
| IPE16-1 |

**5.2.3.4.1. Transmission Equipment**

| DESCRIPTION | QTY | MANUFACTURER |
|---|---|---|
| Fiber Remote Multi-IPE Interface Singlemode (to Bldg 739) Loop 16-1, 20-1 | 1 | Nortel |

**5.2.3.4.2. Power Equipment**

| DESCRIPTION | QTY | MANUFACTURER |
|---|---|---|
| CANDEO SP48300 Rectifier, -48VDC, 1500W | 3 | Emerson Network Power |
| Candeo MP Power Monitor | 1 | Emerson Network Power |
| Batteries – 8V-285AH @ 8 hour rate to 1.75 VDC | 6 stacks | Deka Unigy II |

**5.2.3.5. Dole Center FRIPE:** The FRIPE is located in the Dole Center Building.

| DESCRIPTION |
|---|
| IPE 24-0 |
| IPE 0-0 |

**5.2.3.5.1. Transmission Equipment**

| DESCRIPTION | QTY | MANUFACTURER |
|---|---|---|
| Fiber Multi-IPE Interface Multiplexer (Loop 0-0, 24-0) | 1 | Nortel |

**5.2.3.5.2. Power Equipment**

| DESCRIPTION | QTY | MANUFACTURER |
|---|---|---|
| CANDEO SP48300 Rectifier, -48VDC, 1500W | 2 | Emerson Network Power |
| Candeo MP Controller | 1 | Emerson Network Power |
| Batteries – Model M12V155F71, 12V, 155 AH @ 8 hour rate to 1.75 VDC | 8 units | Marathon |

**5.2.3.6. MXS FRIPE:** The FRIPE is located in MXS Building.

| DESCRIPTION |
|---|
| IPE 136-0 |
| IPE 132-0 |
| IPE 128-0 |

**5.2.3.6.1. Transmission Equipment**

| DESCRIPTION | QTY | MANUFACTURER |
|---|---|---|
| Fiber Multi-IPE Interface Multiplexer (Loop 128-0, 132-0, 136-0 | 1 | Nortel |

**5.2.3.6.2. Power Equipment**

| DESCRIPTION | QTY | MANUFACTURER |
|---|---|---|
| CANDEO SP48300 Rectifier, -48VDC, 1500W | 2 | Emerson Network Power |
| Candeo MP Controller | 1 | Emerson Network Power |
| Batteries – Model M12V155FT, 12V, 155 AH @ 8 hour rate to 1.75 VDC | 4 units | Marathon |

**5.2.4. GFE/GFM Not Covered by AF Sustainment Contract. Reserved.**

**5.2.5 LAN Support**. McConnell AFB has approximately 4,600 LAN drops and 4,600 phone jacks in base infrastructure. These connections are on computers, printers, routers, etc. throughout buildings to individual desktops. They require testing for continuity, end-to-end loss, bit error rate test, and troubleshoot the problems.

**5.2.6 Main Distribution Frame/Intermediate Distribution Frame (MDF/IDF).** The MDF/IDF shall include terminal blocks on the horizontal side of the frame, all gray wiring between the horizontal blocks and the switches, central office connectors (vertical block) including the protector modules installed on the vertical side of the frame, all cross-connect wiring between the horizontal blocks and the switch, horizontal block to horizontal block, horizontal block to vertical block and vertical block to vertical block, and all fiber optic equipment including the light guide distribution shelf, patch panel, and associated equipment.

**5.2.7. Distribution System (ISP/OSP).**
The distribution system supports both analog and digital circuits (voice and data), subscriber loops, off-premise extensions, tie lines, T-1 carriers, LANs, local and long-distance network

trunks, and dedicated data or non-switched circuits. The cable plant encompasses equipment and facilities such as twisted pair cable, fiber optic cable, ducts, raceways, cable vaults, manholes, handholes, splice and pedestal enclosures, distribution terminals and blocks, poles, guys, anchors, load coils, lightning protectors, building entrance cable, and house cable.

**5.2.7.1. Outside Plant Distribution.** Refer to PWS Section 1.2 for O&M requirements. The site(s) contains approximately 175 ManHoles, 70 HandHoles, 5 BD Pedestals of various conduit capacity. The following is the Government's best estimate of the existing Base Distribution System:

| Cable # | Headend (count) | Bldg # | Notes |
|---|---|---|---|
| | | 670,672,681, 683,684,691, 692, 693, 695, 696, 697, 699, 708, 714, 938, 946, 948, 950, 951, 1092, 1094 | |
| Old 2 | 739 (600pr) | 1 | |
| 3 | 739 (1200pr) | 1, 490, 515, 520, 522, 732, 750, 795, 804, 808, 810 | |
| Old 3 | 739 (1200pr) | 1, 250, 314, 515, 732 | |
| Old 4 | 739 (1500pr) | 313, 319, 337, 338, 340, 342, 522, 795, 810, 1330, 1336, 1339 | |
| Old 6 | 739 (3000pr) | 1090, 1107, 1108, 1110, 1111, 1112, 1115, 1132, 1166, 1168, 1169, 1170, 1171, 1176, 1220 | |
| 9 | 739 (200pr) | 250 | |
| 10 | 739 (1200pr) | 169, 188, 196, 642, 643, 706, 710, 2090, 2800, Ped Bridge | |
| 11 | 739 (600pr) | 1183 | |
| 13 | 739 (600pr) | 978 | |
| 111 | TACAN (100pr) | 1112 | |
| 112 | TACAN (100pr) | 70 | |
| 113 | TACAN (100pr) | North Runway | |
| 114 | TACAN (100pr) | South Runway | |
| 121 | MH88 (100pr) | MH82 | |
| 510 | 739 (100pr) | 510 | |
| 601 | 412 (200pr) | 412A | |
| 602 | 412 (400pr) | 337, 338, 340, 342, 350, 408, 1330, 1332, 1336, 1339, 1349 | |
| 701 | 196 (200pr) | 181, 182, 183, 184, 185, 188, 202, Marquee | |
| 901 | 250 (400pr) | 313, 314, 352, 360 | |
| 1090 | 739 (100pr) | 1090 | |
| 1101 | 1183 (300pr) | 850 | |

| | | | |
|---|---|---|---|
| 1102 | 1183 (300pr) | 1186 | |
| 1103 | 1183 (600pr) | 70, 1200, 1218, 1220, 1222 | |
| 1104 | 1183 (600pr) | 840, 1185 | |
| 1105 | 1183 (1200pr) | 852, 1099, 1107, 1166, 1169, 1170, 1171, 1176 | |
| 1106 | 1183 (1500pr) | 412, 415, 424, 430, 1108, 1110, 1111, 1112, 1115, 1120, 1121, 1122, 1200, 1210,1219, 1270, 1290 | |
| 1301 | 978 (1500pr) | 968, 971, 981, 1096, 1106, 1127, 1128, 1129, 1132, 1178 | |
| 1302 | 978 (600pr) | Tie cable | |
| 1303 | 978 (150pr) | 969, 976, 977, 979, 984, 985 | |
| | | | |
| FM001 | 1170 (30str) | 1115 | |
| FM002 | 1170 (30str) | 739 | |
| FM003 | 515 (30str) | 739 | |
| FM004 | 515 (30str) | 1115 | |
| FS005 | 1170 (36str) | 1115 | |
| FS006 | 1170 (36str) | 739 | |
| FS007 | 515 (36str) | 739 | |
| FS008 | 515 (36str) | 1115 | |
| FS009 | 515 (36str) | 1170 | |
| FS010 | 1115 (36str) | 35 | |
| FS011 | 1170 (36str) | 54 | |
| FS012 | 515 (36str) | 1170 | |
| FS013 | 515 (96str) | 1115 | |
| FS014 | 515 (36str) | 739 | |
| FS015 | 1170 (36str) | 1115 | |
| FS016 | 1170 (96str) | 54 | |
| FS017 | 54 (36str) | 35 | |
| FS018 | 35 (96str) | 1225 | |
| FS019 | 1115 (96str) | 1225 | |
| | | | |
| FM101 | 515 (96str) | 510, 522, 732, 750, 795, 804, 810 | |
| FM102 | 515 (24str) | 1, 250 | |
| FM103 | 515 (24str) | 408 | |
| FS104 | 515 (24str) | 1, 250 | |
| FS105 | 515 (72str) | 337, 338, 340, 342, 412A | |
| FS106 | 515 (12str) | Ped Bridge | |
| FM107 | 515 (12str) | 202 | |
| FS108 | 515 (72str) | 350, 1330, 1332, 1336, 1339, 1349, | |
| FS109 | 515 (72str) | 313, 352, 520 | |
| FS110 | 515 (12str) | 1090 | |
| FS111 | 515 (12str) | 1 | |
| FS112 | 515 (12str) | 522 | |

| | | | |
|---|---|---|---|
| FS113 | 515 (12str) | 795 | |
| FS114 | 515 (12str) | 810 | |
| FM201 | 739 (12str) | 710 | |
| FM202 | 739 (12str) | 1090 | |
| FM203 | 739 (12str) | 196 | |
| FM204 | 739 (12str) | 691 | |
| FM205 | 739 (24str) | 714, 1092 | |
| FM206 | 739 (72str) | 670, 683, 684, 938, 948, 951 | |
| FM207 | 739 (36str) | 181, 182, 183, 184, 185, 706 | |
| FS208 | 739 (36str) | 2088, 2090, 2800, 2802, 2804, 2808, 2812, 2816 | |
| FS209 | 739 (12str) | 978 | |
| FS210 | 739 (72str) | 165, 169, 642, 643 | |
| FS211 | 739 (12str) | 1090 | |
| FS212 | 739 (72str) | 1, 732, 750, 795, 810 | |
| FS213 | 739 (72str) | 165, 172, 177, 2087, 2810 | |
| FS214 | 739 (24str) | 706, 710 | |
| FS215 | 739 (36str) | 692, 696, 697 | |
| FS216 | 739 (48str) | 670, 681, 691, 699 | |
| FS217 | 739 (72str) | 683, 684, 693, 695, 938, 948 | |
| FS218 | 739 (24str) | 950, 1127 | |
| FS219 | 739 (12str) | 951 | |
| FS220 | 739 (12str) | 714 | |
| FS221 | 739 (12str) | 1092 | |
| FM301 | 1170 (108str) | 968, 969, 970, 971, 976, 978, 1106, 1127 | |
| FM302 | 1170 (84str) | 1166, 1169, 1183 | |
| FM303 | 1170 (12str) | 1099 | |
| FM304 | 1170 (12str) | 1107 | |
| FS305 | 1170 (72str) | 1096, 978 | |
| FS306 | 1170 (24str) | 952, 955 | |
| FS307 | 1170 (36str) | 1127, 1128, 1129 | |
| FS308 | 1170 (48str) | 968, 969, 971, 976 | |
| FS309 | 1170 (36str) | 977, 979, 985 | |
| FS310 | 1170 (12str) | 1106 | |
| FS311 | 1170 (12str) | 1112 | |
| FS312 | 1170 (12str) | 1166 | |
| FS313 | 1170 (12str) | 1169 | |
| FS314 | 1170 (12str) | 1171 | |
| FS315 | 1170 (12str) | 1176 | |
| FS316 | 1170 (12str) | 1186 | |
| FS317 | 1170 (12str) | 1099 | |
| FS318 | 1170 (12str) | 1107 | |
| FM401 | 1115 (108str) | 1110, 1112, 1200, 1218, 1220, 1222 | |
| FM402 | 1115 (108str) | 840, 850, 852, 1111, 1120, 1183, 1185, 1186 | |
| FM404 | 1115 (12str) | 430 | |

| | | | |
|---|---|---|---|
| FS406 | 1115 (72str) | 412,415, 424, 1120, 1270, 1290 | |
| FS407 | 1115 (48str) | 1218, 1219, 1220, 1222 | |
| FS408 | 1115 (12str) | 1110 | |
| FS409 | 1115 (12str) | 1112 | |
| FS410 | 1115 (12str) | 1200 | |
| FS411 | 1115 (12str) | 1111 | |
| FS412 | 1115 (12str) | 412A | |
| FS413 | 1115 (12str) | 1108 | |
| FS414 | 1115 (36str) | 840, 1185, 1186 | |
| FS415 | 1115 (36str) | 850, 852, 1183 | |
| FS416 | 1115 (48str) | 1455, 1501, 1541, 1560 | |
| FS501 | 1225 (96str) | 1394, 1401, 1403, 1411, 1413, 1414, 1418 | |
| FS502 | 1225 (96str) | 1375, 1376, 1393, 1395, 1396, 1399 | |
| FS503 | 1225 (12str) | 1218 | |
| FS601 | 35 (24str) | 70, 72 | |
| FS602 | 35 (12str) | 3 | |
| FS603 | 35 (12str) | 10 | |
| FS604 | 35 (12str) | 16 | |
| FS605 | 35 (12str) | 33 | |
| FS606 | 35 (12str) | 37 | |
| FS607 | 35 (12str) | 40 | |
| FS608 | 35 (12str) | 42 | |
| FS609 | 35 (12str) | 43 | |
| FS610 | 35 (12str) | 44 | |
| FS611 | 35 (12str) | 48 | |
| FS612 | 35 (12str) | 49 | |
| FS613 | 35 (12str) | 65 | |
| FS701 | 54 (48str) | 61, 62, 63, 64 | |
| FS702 | 54 (12str) | 978 | |
| FS703 | 54 (12str) | 52 | |
| FS704 | 54 (12str) | 65 | |
| FS705 | 54 (12str) | 44 | |
| FS706 | 54 (12str) | 48 | |
| FS707 | 54 (12str) | 37 | |
| FS708 | 54 (12str) | 41 | |
| FS709 | 54 (12str) | 49 | |
| FS710 | 54 (12str) | 50 | |
| FS711 | 54 (12str) | 40 | |
| FS712 | 54 (12str) | 51 | |

## APPENDIX 5.3 - GLOSSARY AND ACRONYMS

**5.3.1. Purpose.**
Definitions and terms in this appendix provide additional guidance of interpreting this PWS.

**5.3.2. Definitions.**

**Access.** The ability to enter or gain admittance to a facility; and/or the connection to a communications channel path or its equipment.

**Activation**. The efforts to bring into service a channel, equipment, or circuit (other than those associated with work orders) to replace a defective channel. Also includes software Data administration of features and lines associated with in-service and operational switching systems.

**Ancillary Equipment**. Equipment, supplementary or auxiliary to a telephone system or instrument, which includes such components as speakerphones, line busy indicators, buzzers, headsets, jacks, terminals, voice processing systems, accounting systems, conferencing systems, printers, maintenance and administration terminals, etc.

**Base Telecommunication System (BTS)**. A system to provide total telephone service, which may include the telephone switch, remote switching equipment, ISP/OSP and equipment, reserve power equipment, network, and other necessary ancillary equipment.

**Base Telecommunication System (BTS) Manager**. The individual designated to manage the base telecommunication system. This individual shall have full authority to act for the company on all matters related to O&M and properly executed work orders. This does not include the authority to commit the Contractor to any contractual modifications.

**Budgetary Estimate/Rough Order of Magnitude (ROM)**. These are non-binding estimates provided on a quick turn-around basis. A Budgetary Estimate or ROM should not require the Contractor to perform a large or complex technical solution. These should easily be turned around within the days specified within 1.2 of this PWS; and should be for work projected to be accomplished by this Contractor.

**Cable Maintenance**. Includes random testing, swapping pairs, tagging, identifying, pair/strand testing and repairing, and ensuring splice case enclosure integrity (when visible to inspect). When the CSO (in conjunction with the contracting officer) determines that an excessive number of pairs are defective, the CSO may direct under O&M that repairs be undertaken. Replacement of an entire cable under O&M is not expected, only repairs of

splices, bad cross-connections, etc

**Channel**. A circuit path. Several channels may share a common transmission system.

**Circuit.** A means of two-way communications between two points.

**Circuit Availability.** The percent of time a circuit was operational or up during a specified period of time. Circuit Availability = (Uptime ÷ (Downtime + Uptime)) X 100

**CIPS Visualization Component (CVC)** — A Geographic Information System appliance in the CIPS toolsets providing a computerized graphical interface joining the communications and information systems infrastructure (both existing and planned) graphics with the GeoBase Common Installation Picture (CIP) at the base level. Communication features, such as manholes, paths of duct banks and direct buried cable, are shown in a geospatially precise relationship to roads, buildings, airfields, base perimeters, aerial photography, and other installation infrastructure features. CVC is an AF Enterprise application providing real-time situational awareness and analytical tools not available with the Legacy CSIRs and other static drawings and diagrams. To be of optimal functional use at an installation, CVC requires transformation of engineering data contained in the Legacy CSIR drawings into the CIPS database and, outside plant features are required to be precisely located using GPS or land surveying technologies.

**Communications Feature Data (CFD).** Data containing descriptive information about communication features collected for the purpose of importing or transferring the information into the CVC database. CFD can include information about any feature in the communications and information systems inside and outside plant infrastructure recorded in the CVC. Information collected during PMI and GPS Services is a part of CFD.

**Communications and Information Systems Installation Records (CSIR).** Collection of records, including the CVC database, associated with the installation of a communications and information system in a facility, building, or location. CSIRs is an AF communications community term originally used to refer to the official communications and information systems installation Master Records (Legacy CSIRs) drawings developed and maintained, at the communications Engineering Data Service Center (EDSC) using Computer Aided Drafting and Design (CADD) software formats. Developing and maintaining CSIRs using CADD processes is being phased out. The CVC is the standard Air Force application for developing and maintaining CSIRs in accordance with AFI33-101.

**Communications and Information Systems Officer (CSO)** or his/her designated representative. For the purpose of this contract activity, references to the CSO shall be taken

to mean that the Contractor shall coordinate primarily with the CSO's designated representative, Quality Assurance Personnel (COR).

**Communication Room.** Any space which houses telecommunications switching equipment, transmission equipment, or terminal connection blocks.

**Communications System.** An overall term used to describe communications facilities including associated equipment and transmission media.

**Contract Administrator (CA).** The person working within a contracting office that administers or manages the official contract file or portions delegated thereof. This person may also be a CO.

**Contracting Officer (CO).** The only person authorized to obligate the Government to a course of action and is responsible for all contractual aspects of the contract.

**Contractor Furnished Equipment (CFE)/Contractor Furnished Material (CFM).** Contractor assets furnished by the government to perform a government function.

**Cross-Connects.** Wire or electrical connections at interface points to establish an overall end- to-end service between facility segments. A cross-connect may physically or electronically interconnect channels. Cross-connect efforts shall include testing and records updating.

**Customer Premise Equipment (CPE)**. CPE consists of those items at or near the customer workstation area to conduct electronic communications. CPE includes telephone instruments, alarm systems, paging systems, and terminal equipment. (This does not include Automatic Data Processing Equipment.)

**Cyberspace.** A domain characterized by the use of electronics and the electromagnetic spectrum to store, modify, and exchange data via networked systems and associated physical infrastructure**.**

**Cyberspace Infrastructure Planning System (CIPS).** The web-based Air Force enterprise toolset used to develop, analyze, update, justify, and disseminate cyberspace infrastructure plans. This system is used to effectively maintain and modernize the Air Force's cyberspace infrastructure. CIPS serves as a multifaceted system that performs cyberspace configuration management, architectural development, infrastructure planning, technology insertion analysis, and implementation management. Also, CIPS contains a toolset called CVC that modernizes the processes for maintaining data historically recorded in the CSIRs. CIPS supports the Air

Force missions at the following levels: base cyberspace infrastructure operations, maintenance and planning; MAJCOM architecture and funding

**Data Administration (System Administration)**. O&M effort required to add, remove, change, update, or query system data. Defined as follows:

> Customer Data Modification (CDM**)**. Modification of directory numbers, classes of service, features, VPS, etc.
>
> Office Data Modification (ODM**)**. Modification of trunk group numbers, trunk type, service circuit type, digital and route translations, message routes, thresholds, test tables, network management control variables, etc.
>
> Translation**.** Call routing process controlled by dialed digits and converted into a destination termination.

**Data Dictionary**. A collection of descriptions for features or items in a data model for the benefit of programmers, data collectors, and other users who need to refer to them. Features with which users interact and the relationship between features are identified. Each feature or item is given a descriptive name, its relationship is described, the type of data (such as text or image or binary value) is described, possible predefined values are listed, and a brief textual description is provided. Data dictionaries are consulted to understand where feature or item data fits in the data model structure, what values it may contain, and basically what the data means in real-world terms. Table A of Appendix 5.6 is an example of a data dictionary.

**Deactivate.** All O&M service actions and efforts necessary to discontinue the end-to-end service and connectivity, "turn-off" service equipment, and update data/system administration records. Includes all labor, tools, and miscellaneous materials necessary to accomplish the deactivation. Deactivating a service or equipment implies the equipment will remain in place to be reactivated at some future time with different characteristics. Removal actions return CPE to the COR and clear all cross-connects from patch panels and terminals. Reactivate actions "turn- on" equipment that was "deactivated."

**Dial Central Office (DCO)**. The telephone exchange on a Government installation. These switching systems consist of government-owned telephone switches (typically Nortel, Avaya, Lucent, and Siemens) of various line and trunk sizes and configurations. Some of these switches function as end offices or small end offices (as defined in Joint Staff publication 6215.01B) and are capable of sophisticated routing and trunking.

**Directory Assistance Information.** Provides the person's address as well as DSN

phone number.

**Equipment and Installation Performance Specification (EIPS).** Establishes the technical requirements for base telecommunications system equipment.

**Fault Detection**. Perform diagnostics, initiate alarms and report faults. Includes test equipment necessary to measure or obtain circuit operating parameters and accomplish end-to-end testing of a channel. Test applications include ISDN, DS1, DS3, OC-1, 10 Mbps Ethernet, etc. Operating conditions include attenuation levels and bit error rates. Circuit types range from low bandwidth applications (e.g., voice grade, DS1, etc.) to high bandwidth applications (e.g., OC-3, multi-mega bit packet data streams, etc.).

**Fault Notification**. Alert maintenance personnel by audible, visual, or print output message.

**Fault Verification**. Distinguish between failures and errors. Verify no-trouble-found (NTF) problems. (NTF indicates the identified fault occurs intermittently).

**Fault Location**. Troubleshoot the fault area and take repair action.

**Fault Repair**. Replace defective parts and/or make corrective adjustments.

**Geospatial Data**. Also known as *spatial data* or *geographic information* is the data or information that identifies the geographic location of features and boundaries on Earth, such as natural or constructed features, oceans, and more. Geospatial data is usually stored as coordinates, attributes, and topology, and is data that can be mapped. Geospatial data is often accessed, manipulated or analyzed through Geographic Information Systems (GIS).

**Geographic Information System (GIS).** An electronic system of software and hardware that provides a graphical user interface for the display of cartographic drawings and attribute data for the graphical features in the drawing, generally containing longitude and latitude data for each feature. CVC is a Geographic Information System.

**Global Positioning System.** A network of earth orbital satellites and ground based stations that provide precision longitude and latitude data to ground based receivers.

**Government Furnished Equipment (GFE)/Government Furnished Material (GFM).** Government assets furnished to a Contractor to perform a government function.

**IT/NSS.** IT is the term "Information Technology" as defined in OMB Circular A-130. NSS is the term "National Security System" as defined in the Clinger-Cohen Act. SEC. 5142.

**Inside Plant (ISP).** Equipment associated with a DCO or communication room, which contains electronic equipment, a distribution frame, cable rack, and power system.

**Inside Wiring.** That part of the OSP within buildings that includes house cable (horizontal cable and riser cable, also called backbone cable), station wiring, and horizontal distribution wiring for local area networks up to and including the telecommunications outlet, cross-connections, and mechanical terminations in the telecommunications closet. Functionally, it is the distribution cable within the confines of a single building or group of related buildings excluding the entrance cable to the building main terminal. Also known as building cabling/wiring or structured wiring or premise wiring.

**Isolation.** The action required to locate a failure within a system using test equipment.

**Local Area Network (LAN).** A telecommunications system designed to provide data, voice, imagery, video, graphics, and other forms of electronic communications.

**Locate and Mark.** Determine the underground route of cable and conduit facilities and identify the route of these facilities by means of paint, flags, stakes, etc.

**Main Distribution Frame (MDF).** A distribution frame which terminates the permanent outside lines entering the telephone switching system and also terminates the telephone switching equipment.

**Normal Duty Hours.** The hours the Contractor's key personnel are required to be on-site. The normal hours of operation are Monday through Friday, between 0730 and 1630. This excludes Federal holidays.

**On-Call Duty.** Technician is not required to be physically present in the work center. However, personnel performing on-call duty must have a means of being contacted (telephone, beeper, etc) so they can respond to designated outages within a specified time limit.

**Operations and Maintenance (O&M).** All actions taken (IAW applicable publications) to maintain equipment in a serviceable condition or to restore it to a serviceable condition to include inspection, periodic testing, adjustment, repair, rebuilding, and reclamation**.** The effort includes the replacement of defective circuit packs (e.g., line and trunk cards, common control cards, data interface cards, etc.) and CPE. O&M does not include repair of building inside structure cable (BISC), but does include troubleshooting and fault isolation. BISC items will be repaired by replacement via appropriate contract line items. (O&M) includes, but is not limited to:

- ✓ Activation
- ✓ Cable Maintenance
- ✓ Cross-connects
- ✓ Data Administration
- ✓ Deactivate
- ✓ Fault Detection
- ✓ Fault Notification
- ✓ Fault Verification
- ✓ Fault Location
- ✓ Fault Repair.
- ✓ Reactivate
- ✓ Service Verification

**Operational Records.** Include Warranty Records, Service Orders, Communication-Computer Systems Installation Records, Scheduled Service Interruption Records, Service Order Records, Telecommunications Management System Records, Call Accounting System Records, Quality Control Records, Switching System Records, Inside and Outside Cable Plant Records, Ancillary and Premise Equipment Records, Cable Pair Assignment Records, etc.

**Outside Plant (OSP).** The OSP is a base-level information transfer network, which includes the transmission media (e.g., twisted pair, fiber optics, etc.) and associated hardware (e.g., distribution frames, multiplexer, modem, and repeater). OSP cable demarcations at the vertical side of the DCO distribution frame/patch panels and extends to the building entrance terminal. Inside Wire continues from the building terminal to the horizontal wire modular jack. Manhole and duct system and other supporting structure are part of the OSP, but may be treated differently for maintenance because of real property rules. The following outside cable segment types are used to determine the area of the cable distribution:

- ✓ Feeder Distribution Cable - cable for a service zone area
- ✓ Branch Distribution Cable - cable branching from a feeder cable to serve a building(s)
- ✓ Taper Point - cable transition from a larger count to a smaller count
- ✓ Distribution Cable - (building entrance terminal cable) cable to a building entrance terminal block
- ✓ Service Cable - 4/6-wire cable to a single user (not premise wiring)
- ✓ Trunk Cable - cable connecting two DCO's

**Premise Wire.** See Inside Wiring.

**Preventive Maintenance.** The periodic inspection, cleaning, adjusting, and repairing to

prevent problems before they affect service.

**Product ID (PID).** A term used in the pricing table to identify products and services ordered.

**Quality Control Records.** Records to include all inspections of services and necessary corrective actions taken IAW Contractor's Quality Control Plan.

**Reactivate**. All O&M services actions and efforts necessary to restore the end-to-end service and connectivity: "turn-on" service equipment, and update data/system administration records. Includes all labor, tools, and miscellaneous materials necessary to accomplish the restoration. Reactivating a service or equipment implies the equipment and facilities are in place. Effort includes assignment of characteristics.

**Reliability.** The probability an electronic item will perform its intended function for a specified interval under stated conditions.

**Relocate.** Includes all labor, tools, and miscellaneous materials necessary to deactivate a service, move equipment to another location, and reactivate equipment or hardware at the new location. Typically, the relocation of active equipment involves removal of cross-connects from the old circuit path and installing cross-connects for the new circuit path. This effort includes the data/system administration actions necessary to complete the relocation.

**Remedy.** A system used to track trouble tickets and outages, problems that occur on existing equipment. Remedy tickets are created by the User or directed by the Communications Focal Point (CFP) when the customer calls to report the outage. Telephone remedy tickets are submitted then sent to a technician with our leased communications contract. The technician then trouble shoots the ticket, and turns in the ticket for tracking through their system and closes out the ticket via the Remedy program.

**Removal.** Includes all labor, tools, and miscellaneous materials necessary to deactivate services, clear associated cross-connect from frames and terminals, remove, return, and dispose of equipment and/or hardware and material as determined by the COR.

**Response Time.** The time between notification and arrival at the location of a fault or degradation.

**Restoration Priority List (RPL).** A list of systems, equipment, or circuits, and their restoration criteria established by the COR. The Government will provide a new RPL as changes occur.

**Scheduled Maintenance Outage.** A break in service availability scheduled to permit maintenance.

**Service Verification.** Verify fault is cleared, assure service is restored and initiate completion paperwork.

**Shape File.** A Geographic Information System file format developed by Environmental Systems Research Institute.

**Switchboard Operation.** The Operation of the switchboard shall include call handling and routing, call origination to commercial and Governments telephone networks, call answering and disposition, trap and trace procedures, trunk quality monitoring, monitoring telephone switch alarms and customer support for assistance and information.

**System Administration (Data Administration).** See Data Administration.

**Technical Solution.** These are solutions provided by the Contractor for the express purpose of implementation under this contract. They usually require more than a short walk-through, and use existing contract Price List Items/PIDs in the standard work order format. Government shall retain the right to approve the proposed solution or recommend changes where necessary.

**Transmission Equipment.** Equipment that sends or receives information signals. Includes multiplexers, T-1 spans, channel banks, microwave equipment, repeaters, data terminal equipment, modems, channel service units, data service units, etc.

**Trunk.** A communications channel between two switching system facilities.

**Voice over Internet Protocol (VoIP)**. The VoIP phone is connected directly to the LAN. Installation and activation requires an Ethernet port with power provided by a LAN Ethernet switch. Some phones (ie. I2004) have a power supply transformer when LAN switch power is not available.

**Voice Protection System (VPS).** A telephony firewall system manufactured by Secure Logix with a trade name of Telwall. This system is installed in a serial manner on voice trunks to monitor calls to identify modem, secure voice and related call activity to determine if consistent with security policy for that telephone line. VPS configuration is centrally managed and controlled.

**Work Area.** The area provided by the base or Contractor for employees to perform assigned

work as required for Contractor operations.

(Remainder of page intentionally left blank)

### 5.3.3. Acronyms

**A**

| | |
|---|---|
| AFB | Air Force Base |
| AFFARS | Air Force Federal Acquisition Regulation Supplement |
| AFI | Air Force Instruction |
| ARB | Air Reserve Base |

**B**

| | |
|---|---|
| BTS | Base Telecommunications System |

**C**

| | |
|---|---|
| CA | Contract Administrator |
| CAIRS | Cable Assignment Information Retrieval System |
| CAS | Call Accounting System |
| CCWO | Commercial Communications Work Order |
| CFE | Contractor Furnished Equipment |
| CFD | Communication Feature Data |
| CFM | Contractor Furnished Material |
| CFR | Code of Federal Regulations |
| CIPS | Cyberspace Infrastructure Planning System |
| CITS | Combat Information Transport System |
| CLIN | Contract Line Item Number |
| CLS | Contractor Logistic Support |
| CM6 | Communication Manager |
| CO | Contracting Officer |
| COR | Contracting Officer Representative |
| CPE | Customer Premise Equipment |
| CSIR | Communications and Information Systems Installation Records |
| CSO | Base Communications Systems Officer or Designee |
| CVC | CIPS Visualization Component |

**D**

| | |
|---|---|
| DCO | Dial Central Office |
| DoD | Department of Defense |
| DSN STIG | Defense Switched Network Security Technical Implementation Guide |

**E**

| | |
|---|---|
| ENSC | Enterprise Network Support Center |
| EPA | Environmental Protection Agency |
| EIPS | Equipment and Installation Performance Specification |

**F**

| | |
|---|---|
| FAR | Federal Acquisition Regulation |

| | |
|---|---|
| FC/FD | Functional Commander or Functional Director |
| FGDC | Federal Geographic Data Committee |
| FOIA | Freedom of Information Act |
| FOUO | For Official Use Only |

**G**

| | |
|---|---|
| GFP | Government Furnished Property |
| GOS | Grade of Service |
| GPS | Global Positioning System |

**I**

| | |
|---|---|
| IAW | In Accordance With |
| IP | Internet Protocol |
| ISDN | Integrated Services Digital Network |
| ISP | Inside Plant |
| IT/NSS | Information Technology/National Security System |

**L**

| | |
|---|---|
| LAN | Local Area Network |
| LMR | Land Mobile Radio |

**M**

| | |
|---|---|
| MAJCOM | Major Command |
| MCCC | MAJCOM Communication Control Center |
| MDF | Main Distribution Frame |
| MRA | Material Return Authorization |

**N**

| | |
|---|---|
| NCC | Network Control Center |
| NOSC | Network Operations Center |
| NTE | Not-to-Exceed |

**O**

| | |
|---|---|
| ODM | Office Data Modification |
| O&M | Operations and Maintenance |
| OEM | Original Equipment Manufacturer |
| OSHA | Occupational Safety and Health Administration |
| OSP | Outside Plant |

**P**

| | |
|---|---|
| PID | Product Identification |
| PEC | Product Engineering Code |
| PMI | Preventive Maintenance Inspection |
| PWS | Performance Work Statement |

**Q**

| | |
|---|---|
| QCP | Quality Control Plan |

**R**

| | |
|---|---|
| RNOSC | Remote Network Operations Security Center |
| ROM | Rough Order of Magnitude |
| RPL | Restoration Priority List |

**S**

| | |
|---|---|
| SDS | Service Delivery Summary |
| SDS | Safety Data Sheet |
| SLIN | Subcontract Line Item Number |

**T**

| | |
|---|---|
| TMS | Telecommunications Management System |

**V**

| | |
|---|---|
| VPS | Voice Protection System |
| VSS | Voice Switching System |

## APPENDIX 5.4 - VOICE SWITCHING SYSTEM (VSS) SUSTAINMENT

For equipment specified in appendix 5.2 (section 5.2.3), Tier 2 and 3 support. The first-call will be fielded by the Field Assistance Service (FAS) (DSN# 596-5771, opt 2,1,2), which serves as the central Help Desk. FAS will contact the appropriate DISA Remote Network Operations Security Center (RNOSC) or Nortel to provide site support. Sites will not ship cards unless directed by FAS. The following chart illustrates the key support services:

| **Support** | **Contact** |
|---|---|
| Customer Service (24/7) | FAS:<br>DSN: 596-5771 option 2,1,2<br>Toll free: (877) 596-5771 option 2,1,2<br>Comm: (334) 416-5771 option 2,1,2 |
| Repair and Return | FAS: They will provide shipping direction |
| Repair and Return Response Times (Emergency/routine) | FAS: They will provide shipping direction |
| Emergency Tech Assistance (Switching) | FAS: DSN DISA or Nortel will provide support as directed by ENSC |
| Emergency Tech Assistance (Non-switching and service info) | FAS: DSN DISA or Nortel will provide support as directed by FAS |

## APPENDIX 5.5 - APPLICABLE DOCUMENTS

### 5.5.1. Government Documents.

| DOCUMENT | DATE | TITLE |
|---|---|---|
| DODI 5000.02 | 07 Jan 15 | Operation of the Defense Acquisition System, Engineering and Manufacturing Development (EMD) Phase |
| DODI 8100.04 | 09 Dec 10 | Department of Defense (DoD) Unified Capabilities (UC) |
| DOD Telecommunications and DSN STIG V2R3* | | DISA Field Security Operations Developed by DISA for the DoD |
| DODI 8570.01-M | 19 Dec 05, Incorporating Change 4 dated 10 Nov 15 | Information Assurance Workforce Improvement Program |

Copies of the above DODI documents may be obtained from http://www.dtic.mil.
*Copies of this document may be obtained from http://iase.disa.mil/stigs/Pages/stig-viewing-guidance.aspx.

### 5.5.2. Air Force Instructions (AFIs) / AF Manuals (AFMAN) .

| DOCUMENT | DATE | TITLE |
|---|---|---|
| AFI 31-501 | 27 Jan 2005 | Personnel Security Program Management |
| AFI 32-7086 | 4 Feb 2015 | Hazardous Material Management |
| AFI 33-101 | 18 Nov 08 | Commanders Guidance and Responsibilities |
| AFI 33-150 | 30 Nov 2011 | Cyberspace Infrastructure Planning System |
| AFI 33-360 | 1 Dec 2015 | Publications and Forms Management (Table 1.1 IAW AFMAN 33-363) |
| AFI 91-203 | 15 Jun 2012 | Air Force Consolidated Occupational Safety Instruction *Incorporating Change 1,26 October 2016* |
| AFMAN 33-145 | 6 Sep 2012 | Collaboration service and Voice Systems Management |
| AFMAN 33-152 | 1 Jun 2012 | User Responsibilities and Guidance For Information Systems |
| AFMAN 33-363 | 1 Mar 2008 | Management of Records (para 6.4) *Incorporating Change 1, 28 January 2015* Certified Current 9 April 2015 |

Copies of AFIs & AFMANs can be obtained at: www.e-publishing.af.mil. If a document appears unavailable on the Air Force E-Publishing site, the contractor may work with the COR to obtain a copy.

**5.5.3. Other Air Force Document(s).**

| DOCUMENT | DATE | TITLE |
|---|---|---|
| QTP4B051-11 & QTP4B071-8 | 02 Apr 2015 | Confined Spaces |

Copies of AFOSH Standards can be obtained at: http://www.e-publishing.af.mil.

**5.5.4. Federal Standards and Specifications**.

The following safety references (Code of Federal Regulations (CFR)) are not intended to exclude any other references, but are intended to identify those safety references, which are most common to the efforts required by this PWS. The Contractor is required to abide by any and all applicable federal, state, and local codes and safety requirements.

| DOCUMENT | DATE | TITLE |
|---|---|---|
| CFR Title 29, Labor Volume 6, Chapter XVII Part 1910 | Revised as of July 1, 2015 | Occupational Safety and Health Standards |
| CFR Title 29, Labor Volume 5, Chapter XVII Part 1910.268 | Revised as of July 1, 2015 | Telecommunications |
| CFR Title 29, Labor Volume 6, Chapter XVII Part 1910.1001&Volume 8, Chapter 1926.1101 | Revised as of July 1, 2015 | Asbestos |
| CFR Title 29, Volume 5, Chapter XVII Part 1910.120 | Revised as of July 1, 2015 | Hazardous Waste Operations and Emergency Response |
| CFR Title 29, Volume 5, Chapter XVII, Part 1910.146 | Revised as of July 1, 2015 | Permit-Required Confined Spaces |
| CFR Title 29, Volume 5 Part 1910.147 | Revised as of July 1, 2015 | The Control of Hazardous Energy (Lockout/Tagout) |
| CFR Title 29, Volume 6, Chapter XVII Part 1910.1200 | Revised as of July 1, 2015 | Hazard Communication |
| CFR Title 29, Volume 8, Chapter XVII Parts 1926.650, 651 & 652 | Revised as of July 1, 2015 | --Scope, Application, and Definitions Applicable to this Subpart<br>--Specific Excavation |

| | | |
|---|---|---|
| | | Requirements<br>--Requirements for Protective Systems |
| CFR Title 40, Volume 32, Chapter V, Parts 1500-1508 | Revised as of July 1, 2015 | Council on Environment Quality, To include National Environmental Policy Act (NEPA) |
| CFR Title 40, Volume 25, Chapter I, Parts 260, 261, 262, 263, 264 & 265 | Revised as of July 1, 2015 | Hazardous Waste Management System: General Identification & Listing of Hazardous Waste |
| CFR Title 47, Volume 3, Chapter I, Part 68 | Revised as of October 1, 2015 | Connection of Terminal Equipment to the Telephone Network |
| CFR Title 32, Volume 6, Chapter VII, Part 989 | Revised as of July 1, 2015 | Environmental Impact Analysis Process (EIAP) |

**5.5.5. Vendor Documents.**

See Original Equipment Manufacturers' web sites. Contractor is responsible for obtaining and maintaining OEM manuals or other documentation necessary on-site for operating, maintaining, upgrading, and/or repairing equipment specified in appendix 5.2 of this PWS. Contractor shall also make available such documentation to COR (for viewing) to ensure compliance with OEM guidance.

## APPENDIX 5.6 - GLOBAL POSITIONING SYSTEM SERVICE DOCUMENTS

### TABLE A
### Entities, Attributes, and Domain Values for Recording Required Communication Feature Data
### (BASIC COMM PATH TEMPLATE)

**A.1. Feature Attributes for COMM-Path Entities.**

**A.1.1. GPS_MANHOLE**

A.1.1.1. **Definition.** An enclosed structure (manhole, handhole and pullbox). A butterfly layout is used that shows the floor and walls flattened out so duct openings can be drawn on the walls. This must be represented as one polygon (one row in the table). The point is used to show the center of the manhole/handhole cover.

A.1.1.2. **Geometry type.** Site (Point).

A.1.1.3 **Attributes.**

| Column Name | SDSFIE Common Name | Description | Data Type | Use | Domain Table |
|---|---|---|---|---|---|
| NAME | Identifier Name | The standard identifier name (e.g. MH-19). | Char(20) | Required | |
| MH_TYPE_D | | A description for the type of manhole. | Char(16 | Recommended | D_MHTYP |
| MH_MAT_D | | Discriminator References D_COSTRM table. Used to describe the material composition of the manhole. | Char(16) | Recommended | D_COSTRM |
| FLOOR_ELEV | Floor Elevation Dimension | The height (or depth) of the bottom of the manhole measured from grade. | Real | Recommended | |
| RIM_ELEV | Rim Elevation Dimension | The height of the top of the rim of the manhole measured from grade. | Real | Recommended | |
| DISPOSTN_D | Disposition Code | The status of the subject item (e.g., permanent, temporary, proposed, abandoned, etc.), from lists or entered from field inspections. | Char(16) | Required | D_DPOBJ |

| Column Name | SDSFIE Common Name | Description | Data Type | Use | Domain Table |
|---|---|---|---|---|---|
| MAPSRC_D | Map Source Discriminator | DISCRIMINATOR - Used to indicate the source of data for the spatial position of this graphic. | Char(16) | Required | D_DATSRC |
| MAPACU | Spatial Accuracy in Meters | Describes the spatial accuracy of mapsrc_d. in meters, +/- of where the feature may actually be. For example, if you are using GPS and it's only accurate to 1 meter, put a | Real | Required | |

### A.1.2. GPS_VAULT

A.1.2.1. **Definition.** An enclosed structure in a facility used for cable entrance.

A.1.2.2. **Geometry type.** Site (Point).

A.1.2.3 **Attributes.**

| Column Name | SDSFIE Common Name | Description | Data Type | Use | Domain Table |
|---|---|---|---|---|---|
| NAME | Identifier Name | The standard identifier name (i.e. V-19). | Char(20) | Required | |
| VLT_MAT_D | Vault Material Code | Discriminator References D_COSTRM table. Used to describe the material composition of the vault. | Char(16) | Recommended | D_COSTRM |
| DISPOSTN_D | Disposition Code | The status of the subject item (e.g., permanent, temporary, proposed, abandoned, etc.), from lists or entered from field inspections. | Char(16) | Required | D_DPOBJ |

| | | | | | |
|---|---|---|---|---|---|
| MAPSRC_D | Map Source Discriminator | DISCRIMINATOR - Used to indicate the source of data for the spatial position of this graphic. | Char(16) | Required | D_DATSRC |
| MAPACU | Spatial Accuracy in Meters | Describes the spatial accuracy of mapsrc_d. in meters, +/- of where the feature may actually be. For example, if you are using GPS and it's only accurate to 1 meter, put a | Real | Required | |

### A.1.3 GPS_ GEN_CONTAINER

A.1.3.1. **Definition. A**n aboveground, enclosed structure such as a Pedestal or a Controlled Access Distribution Closure that provides access to buried plant and a place to house splices, terminals, etc.

A.1.3.2. **Geometry type.** Site (Point).

A.1.3.3 **Attributes:**

| Column Name | SDSFIE Common Name | Description | Data Type | Use | Domain Table |
|---|---|---|---|---|---|
| NAME | Identifier Name | The standard identifier name (i.e. PED-19). | Char(20) | Required | |
| TYPE_D | Type Code | A description for the type of general container . . | Char(16) | Recommended | D_COPED |
| MODEL_NO | | The model number of the general container .l | Char(16) | Recommended | |
| TERMINAL_D | Terminal Existence Code | A Boolean indicating the presence of a terminal (Y/N). | Char(16) | Recommended | D_BOOLEN |
| BONDED_D | Bonded Code | A Boolean indicating whether the general container is bonded. (Y/N). | Char(16) | Recommended | D_BOOLEN |
| DISPOSTN_D | Disposition Code | The status of the subject item (e.g., permanent, temporary, proposed, abandoned, etc.), from lists or entered from field inspections. | Char(16) | Required | D_DPOBJ |
| MAPSRC_D | Map Source Discriminator | DISCRIMINATOR - Used to indicate the source of data for the spatial position of this graphic. | Char(16) | Required | D_DATSRC |
| MAPACU | Spatial Accuracy in Meters | Describes the spatial accuracy of mapsrc_d. in meters, +/- of where the feature may actually be. For example, if you are using GPS and it's only accurate to 1 meter, put a 1 in this field. | Real | Required | |

### A.1.4. GPS_DBSPLICE

A.1.4.1. **Definition.** An enclosed structure that represents a splice case (aerial or buried).

A.1.4.2. **Geometry type.** Site (Point).

A.1.4.3 **Attributes:**

| Column Name | SDSFIE Common Name | Description | Data Type | Use | Domain Table |
|---|---|---|---|---|---|
| NAME | Identifier Name | The standard identifier name (e.g. DBS01.1-1200_1-900). | Char(20) | Required | |
| CAS_MAT_D | Case Material Code | Used to describe the material composition of the splice case. | Char(16) | Recommended | D_SPCMAT |
| CAS_TYP_D | Case Type Code | Used to describe the type of splice case. | Char(16) | Recommended | D_SPCCAS |
| MAPSRC_D | Map Source Discriminator | DISCRIMINATOR - Used to indicate the source of data for the spatial position of this graphic. | Char(16) | Required | D_DATSRC |
| MAPACU | Spatial Accuracy in Meters | Describes the spatial accuracy of mapsrc_d. in meters, +/- of where the feature may actually be. For example, if you are using GPS and it's only accurate to 1 meter, put a 1 in this field. | Real | Required | |

### A.1.5. GPS_PATH_SEGMENT

A.1.5.1. **Definition.** Link that represents an enclosure path of comm. items outside of a building, manhole, pedestal, or other enclosed structure. For duct banks, comm-path segment can represent the virtual path, duct bank, duct, and innerducts. For ducts, comm-path segment can represent the virtual path, duct, and innerducts. For direct-buried cables at road-crossings, comm-path segment can represent the virtual path, road-crossing duct, and direct-buried cables. It can also represent the path of aerial cable, cable-bridges, and cable-troughs.

A.1.5.2. **Geometry type.** Polyline.

A.1.5.3 **Attributes:**

| Column Name | SDSFIE Common Name | Description | Data Type | Use | Domain Table |
|---|---|---|---|---|---|
| PATH_TYP_D | Comm-Path Type Code | A discriminator field that describes what type of communications path this segment is representing. | Char(16) | Required | D_COPTHT |
| COVERDEPTH | | The minimum depth of this part of the path from grade, in inches. This is mainly used for digging permits | Real | Recommended | |
| MAPSRC_D | Map Source Discriminator | DISCRIMINATOR - Used to indicate the source of data for the spatial position of this graphic. | Char(16) | Required | D_DATSRC |
| MAPACU | Spatial Accuracy in Meters | Describes the spatial accuracy of mapsrc_d. in meters, +/- of where the feature may actually be. For example, if you are using GPS and it's only accurate to 1 meter, put a 1 in this field. | Real | Required | |

## A.2 Domain Values for Attributes of Comm-Path Feature Entities.

### 2.1. D_BOOLEAN: type list.

**A.2.1.1 What it does.** A table of Boolean data types YES and NO. Use for selecting the existence or non-existence of a value, condition, or feature.

**A.2.1.2. Referenced by** GPS_ GENERAL_CONTAINER

**A.2.1.3 Attributes.**

| Lookup Value | Long Description |
|---|---|
| YES | The condition is true or the feature does exist |
| NO | The condition is not true or the feature does not exist |

### A.2.2. D_COPED: communications - general container type.

**A.2.2.1 What it does.** This table contains information about various communications general container types, such as pedestals and controlled access distribution closures.

**A.2.2.2. Referenced by** GPS_ GENERAL_CONTAINER .

**A.2.2.3 Attributes.**

| Lookup Value | Long Description |
|---|---|
| BD | BD - Buried Distribution Closure, size unknown |
| BOX | BOX - Rectangular box type enclosure, accessed by removing a cover panel |
| CAB | CAB - Cabinet enclosure, accessed through a hinged door |
| CAD | CAD - Controlled Access Distribution Closure |
| PED4 | 4 inch pedestal |
| PED6 | 6 inch pedestal |
| PED8 | 8 inch pedestal |
| PED12 | 12 inch pedestal |
| OTHER | Other |
| TBD | To Be Determined |
| UNKNOWN | Unknown |

### A.2.3 D_COPTHT: communications - comm path type.

**A.2.3.1. What it does.** This table contains information about various communications path types.

**A.2.3.2. Referenced by GPS**_PATH_SEGMENT.

**A.2.3.3 Attributes.**

| Lookup Value | Long Description |
|---|---|
| AERIAL | Above ground path between, poles, towers or buildings |
| CABLE_BRIDGE | Bridge only used for cables |
| CABLE_TROUGH | Pathway on top of ground for cables |
| DIRECT_BURIED | Below ground path where soil has direct contact with cable |
| DUCT | Single communications duct |
| DUCTBANK | A container for multiple ducts |
| STUB-OUT | Short duct used with manholes and vaults |
| SURFACE | Path directly on the surface |
| UNDER_ROAD | A duct for cables, usually under a road |
| UNKNOWN | Faulty Source Data |

### A.2.4. D_COSTRM: structure – material.

**A.2.4.1. What it does.** This table contains information about various structure materials.

**A.2.4.2. Referenced by** GPS_MANHOLE, GPS VAULT.

**A.2.4.3 Attributes.**

| Lookup Value | Long Description |
|---|---|
| AL | Aluminum |
| CIS | Concrete Cast in Situ/Cast in Place |
| COMBINATION | Combination of materials |
| FIBERGLASS | Fiberglass |
| PLASTIC | Plastic |
| PRECAST | Pre-Cast Concrete |
| STEEL | Steel |
| UNKNOWN | Unknown |

### A.2.5. D_DATSRC: source list – data.

**A.2.5.1. What it does.** Allowable input values for data sources.

**A.2.5.2. Referenced by** GPS_DBSPLICE, GPS_MANHOLE, GPS_PATH_SEGMENT, GPS_ GENERAL_CONTAINER , GPS_VAULT.

**A.2.5.3 . Attributes.**

| Lookup Value | Long Description |
|---|---|
| AER_PHOTO | Aerial photography |
| AS_BUILT | As-built drawings |
| CSIR | CSIR - Communications System Installation Record |
| FLDLOC_SURVEY | Field location survey |
| GPS_FLDLOC | GPS field located and verified data |
| HAND_DRAFT | Hand-drafted map |
| MAP_TAB | Tab Map series |
| NGS | National Geodetic Survey data |
| SATELLITE | Satellite imagery |
| UNKNOWN | unknown |

### A.2.6 D_DPOBJ: disposition list – object.

**A.2.6.1. What it does.** Allowable input for the disposition of an object.

**A.2.6.2. Referenced by,** GPS_MANHOLE, GPS_ GENERAL_CONTAINER , GPS_VAULT.

**A.2.6.3 . Attributes.**

| Lookup Value | Long Description |
|---|---|
| ABANDONED | Abandoned in place (not in use) |
| TEMPORARY | Temporary |
| PROPOSED | Proposed |
| IN_SERVICE | In service and being used. |
| COLLAPSED | An unserviceable item |
| UNKNOWN | Unknown |
| TBD | To Be Determined |

**A.2.7. D_MHTYP: type list - comm manhole.**

**A.2.7.1. What it does.** The type of manhole.

**A.2.7.2. Referenced by** GPS_MANHOLE.

**A.2.7.3 Attributes.**

| Lookup Value | Long Description |
|---|---|
| CEMH | Controlled Environment Manhole |
| HH_Type_A | Handhole Type A |
| J3 | J3 Manhole |
| J4 | J4 Manhole |
| JC9C | JC9C (2450mm x 1750mm x 1450mm) |
| L | L Manhole |
| R2A | R2A Manhole |
| T | T Manhole |
| V | V Manhole |
| OTHER | Other |
| UNKNOWN | Unknown |

**A.2.8. D_SPCCAS: communications - splice case type**

**A.2.8.1. What it does.** Allowable values for the type of splice case

**A.2.8.2. Referenced by** GPS_DBSPLICE

**A.2.8.3 Attributes**

| Lookup Value | Long Description |
|---|---|
| 12.5SS | 12.5 Inch Stainless Steel |
| 2 TYPE | 2 Type |
| 3BB | 3 Inch Better Buried |
| 3RS | 3 Inch ReddiSeal |

| | |
|---|---|
| 3SS | 3 Inch Stainless Steel |
| 4BB | 4 Inch Better Buried |
| 4RS | 4 Inch ReddiSeal |
| 4SS | 4 Inch Stainless Steel |
| 6.5BB | 6.5 Inch Better Buried |
| 6.5RS | 6.5 Inch ReddiSeal |
| 6.5SS | 6.5 Inch Stainless Steel |
| 9.5BB | 9.5 Inch Better Buried |
| 9.5RS | 9.5 Inch ReddiSeal |
| 9.5SS | 9.5 Inch Stainless Steel |
| FOSC_100_B_H | Raychem FOSC-100 B/H |
| HS | Heat Shrink |
| KBV | K&B Vault |
| LEAD | Lead |
| OTHER | Other |
| READY_ACCESS | Ready Access |
| UC_6_9 | Siemens UC 6-9 |
| UCN_7_10 | Siemens UCN 7-10 |
| UNKNOWN | Unknown |

### A.2.9. D_SPCMAT: communications - splice case mat

**A.2.9.1. What it does.** Allowable input values for the material of the communications splice case

**A.2.9.2. Referenced by** GPS_DBSPLICE

**A.2.9.3 Attributes**

| Lookup Value | Long Description |
|---|---|
| AL | Aluminum |
| EVA | Ethylene Vinyl Acetate (Heat Shrinkable Tubing) |
| FIBER | Fiberglass |
| LEAD | LEAD |
| PE | PE - Polyethylene |
| PP | PP - Polypropylene |
| PVC | PVC - Polyvinyl Chloride |
| SS | SS - Stainless Steel |
| OTHER | Other |
| UNKNOWN | Unknown |